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ADDENDUM

Final Supplemental Environmental Impact Report

EOEA No. 915

UMASS/AMHERST

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ROUTE 57 RELOCATION PROJECT

PHASE II

AGAWAM/SOUTHWICK, MASSACHUSETTS

U.S. Department of Transportation
Federal Highway Administration
Massachusetts Highway Department
Boston, Massachusetts

Cooperating Agencies
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

December, 1994

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*Attached at End of this Document

SUPPLEMENTAL DATA (Separate Document)

Draft Function & Value Assessment of Wetland Areas Report
Draft Wildlife Habitat Evaluation Report

ADDENDUM TO FSEIR DISTRIBUTION LIST

The following is a list of agencies, organizations and persons to whom the Addendum is sent.

A. Federal Government

Senators/Representatives

Senator Edward M. Kennedy
Senator John F. Kerry
Representative Richard E. Neal (Agawam)
Representative John W. Olver (Southwick)

Department of the Army, Corps of Engineers, New England Division

Department of Transportation, Federal Highway Administration

Department of Housing and Urban Development

Department of the Interior, Fish and Wildlife Service, New England Division

Environmental Protection Agency

Air Management Division
Regional Administrator
Wetland Management Division
Environmental Review Coordinator

B. State Government and Regional Agencies

Senators/Representatives

Senator Linda J. Melconian, Agawam
Senator Shannon P. O'Brien, Southwick
Representative Michael P. Walsh, Agawam/Southwick

Office of the Governor

Office of the Inspector General

Executive Office of Environmental Affairs

Executive Office of Administration & Finance

Executive Office of Public Safety

Executive Office of Transportation & Construction

Central Transportation Planning Staff

Department of Environmental Management

Massachusetts Department of Fisheries
Massachusetts Natural Heritage Program

Department of Food and Agriculture, Division of Land Use

Massachusetts Historical Commission

State Archaeologist

Massachusetts Department of the State Auditor, Budget Director

Joint Legislative Commission on Transportation

C. Meetings/Coordination/Events Since FSEIR Filing

The FSEIR was filed with the MEPA Unit of EOEA on June 15, 1994. Since that time, the following meetings, coordination and events have taken place as part of the ongoing agency coordination and review process and the preliminary design work efforts for the project:

7/11/94	-	Meeting held with U.S. Army, Corps of Engineers (US COE), U.S. Fish & Wildlife Service (US FWS), and MA Department of Environmental Protection (MA DEP) to discuss proposed wetland replacement areas.
7/12/94	-	Submitted Draft Function and Value Assessment of Wetland Areas Report for review by US COE and US FWS.
7/13/94	-	Submitted preliminary wetland replacement area designs, subsurface data and groundwater readings for review by MA DEP and US COE.
8/16/94	-	Field meeting held with US COE, US FWS and MA DEP to review construction of wetland replacement areas for Phase I project.
8/17/94	-	Submitted Draft Wildlife Habitat Evaluation Report for review by US COE and US FWS.
8/25/94	-	Installed additional groundwater observation well (B-121OW) in proposed Wetland Replacement Area "A" and replaced/repaired damaged groundwater observation wells (B-116OW, B-119OW & B-120OW).
8/25/94	-	Public Hearing held with Agawam Conservation Commission on Request for Determination of Applicability (RDA) of existing wetland delineations.
8/26/94	-	Meeting held with MEPA and MA Department of Food & Agriculture (MA DFA) to discuss review comments received on FSEIR.
8/29/94	-	Field meeting held with Agawam Conservation Commission to review existing wetland delineations.
9/6/94	-	Public Hearing held with Southwick Conservation Commission on RDA of existing wetland delineations.
9/7/94	-	RDA approved by Southwick Conservation Commission. (See Appendix 2)
9/9/94	-	RDA approved by Agawam Conservation Commission. (See Appendix 2)
10/3/94	-	Submitted updated preliminary design plans for proposed grading and plantings in wetland replacement areas for review by MA DEP and US COE.
10/4/94	-	Meeting held with MA DFA to review revised plans relative to farmland impacts and proposed mitigation.
10/18/94	-	Submitted preliminary design plans for proposed access roadways into Boglisch Tree Farm for review by MA DFA.
10/19/94	-	Submitted updated Function and Value Assessment of Wetland Areas Report for review by US COE and US FWS.
11/2/94	-	Field meeting held with owners of Boglisch Tree Farm to discuss impacts, mitigation and stormwater management issues.
11/4/94	-	Meeting held with US COE and US FWS to discuss proposed wetland replacement areas, and review Function and Value Assessment and Wildlife Habitat Evaluation Reports.

D. Farmlands

On August 26 and October 4, 1994, meetings were held at the MA DFA offices in Lancaster, MA to discuss their review comments on the FSEIR, and to review design plan revisions relative to farmland impacts and proposed mitigation.

The major discussions and agreements reached at these meetings and in follow-up discussions with MA DFA, and the resulting revisions made to the preliminary design plans in order to minimize farmland impacts, are summarized below. The preliminary design revisions are shown on the plans attached at the end of this document. (Figure Nos. 4, 5 and 6)

Farmland Protection Policy Act

MA DFA was informed that Technical Appendix 5 of the Draft Supplemental Environmental Impact Report (DSEIR) dated April, 1993 contained a detailed summary of the resource and functional impacts to farmlands. This section of the DSEIR also contained a Form AD-1006 which was initiated by FHWA (sponsoring federal agency) and completed by the U.S. Department of Agriculture, Soil Conservation Service.

Boglisch Tree Farm

As presented in the FSEIR, the owners of the Boglisch Tree Farm have an approved 12 lot residential subdivision consisting of about 6 acres of their farm property just south of the Mac-Brook Subdivision. (It should be noted that construction of the Mac-Brook Subdivision has already commenced.)

The approved Boglisch Subdivision abuts the southerly property line of the Mac-Brook Subdivision and has frontage on their proposed subdivision roadway called Kosak Court. In addition, the Boglisch Subdivision plans call for two 50 foot wide right of ways which provide access from Kosak Court into the remaining Boglisch Tree Farm property south of their subdivision.

The summary of direct (14 acres) and indirect (3 acres) farmland losses presented in the FSEIR (Pg. 22) was based on the premise that the approved Boglisch Subdivision has effectively converted about 6 acres of farmlands into residential land usage. This resulted in a reduction of direct and indirect farmland losses to the Boglisch Tree Farm by about 5 acres and 1 acre, respectively.

Due to the impacts on the Boglisch Subdivision by the proposed Relocated Route 57 alignment, it now appears that the Boglisch Tree Farm property between the Mac-Brook Subdivision and the north side of Relocated Route will remain as cultivated lands. Under this scenario and based on a proposed 300 foot right of way width for Route 57 (as presented in the FSEIR), the direct and indirect losses for the Boglisch Tree Farm would be increased to about 19 acres and 4 acres, respectively.

The 4 acres of indirect losses between the north side of Route 57 and the Mac-Brook Subdivision is caused by the lack of access to this area, either from Kosak Court or from South West Street.

In order to reduce the direct and indirect losses to the Boglisch Tree Farm and to maintain its viability as an active farm, the preliminary designs have been modified as follows (Refer to Figure Nos. 4 & 5):

- The proposed right of way width for Relocated Route 57 between the proposed animal passageway at Wetland #7 and South West Street has been reduced. Through a majority of this section, the revised width will be 180 feet rather than 300 feet. In addition, the proposed 1½:1 rock fill slopes at Wetland #7 has been extended to the east to minimize the width of the proposed Route 57 fill slopes.

  These right of way and design revisions will reduce direct losses to the Boglisch Tree Farm by about 4 acres (from 19 acres to 15 acres).

- With the proposed right of way width reductions, it is now possible to provide an access roadway from South West Street into the remaining Boglisch property north of Relocated Route 57.

  This design revision will eliminate the indirect losses to the Boglisch Tree Farm (from 4 acres to 0 acres).

- Likewise, the right of way width reduction for Route 57 will allow sufficient room for the construction of a more direct access roadway from South West Street into the remaining Boglisch property south of the Route 57 alignment. As shown on Figure No. 5, this access roadway can be provided parallel to the southerly Route 57 right of way line and is an alternative to the previously proposed alignment through the vacant land parcel south of House #202 owned by Dale and Sandra Boglisch.

- As confirmed at the August, 1994 meeting with MA DFA, no proposed wetland replacement areas will be located on the Boglisch Tree Farm property.

- The MHD has agreed that any prime topsoil within the proposed Route 57 right of way through the Boglisch property can be stripped and stockpiled by the construction contractor for use by the Boglisch Tree Farm. The details of this arrangement will be formulated as part of the final design phase for the project.

Tuckahoe Turf Farm

The area of direct losses to the Tuckahoe parcel are dependent on the proposed right of way needed for the construction of Relocated Route 57; the proposed earth berm (noise barrier) north of Route 57 near Sta. 85+00; and the proposed wetland replacement areas south of Route 57.

Since filing of the FSEIR, the following design refinements have been made to the Route 57 Phase II project which affect the Tuckahoe parcel:

- The proposed right of way width for the Route 57 alignment has been reduced. For a majority of the alignment through the parcel, the width has been reduced from 300 feet to 250 feet.

- The previously proposed wetland replacement Area "D" has been deleted from the project. Instead, Area "A" has been enlarged to encompass an area of about 9.7 acres.

- Access to the southerly portion of the Tuckahoe parcel will be maintained via a proposed connection to the existing access roadway from South West Street. As previously reported in the FSEIR, access to the northerly portion of the Tuckahoe parcel (about 31 acres) is presently available from Bunker Hill Road which runs north/south at the end of the existing Independence Road cul-de-sac.

The current preliminary designs for work within the former Tuckahoe Turf Farm Property will result in a direct loss of about 29 acres of farmland. This is a reduction of about 2 acres from that reported in the FSEIR. The total indirect losses remain at 1 acre which represent the taking of the existing 30-35 foot wide access strip running from South Westfield Street into the main body of the parcel.

The MA DFA and the Town of Agawam are still in the process of negotiating/ finalizing the proposed Agricultural Preservation Restriction (APR) for the approximate 197 acre portion of the former Tuckahoe Turf Farm parcel south of Relocated Route 57. The degree of MHD participation in the costs for the APR will be determined upon agreement of the appraised value of the land and other right of way issues.

If agreement between the MA DFA and the Town of Agawam is not reached on Tuckahoe APR, the MHD will consider participation in the costs for an APR on other existing farmlands in the area (as identified by MA DFA) as an alternative mitigation plan for farmland impacts caused by the proposed project.

Schmaelzle Farm

The design layout for the proposed ramps at the Route 187 (South Westfield Street) interchange (as shown on Figure No. 5 in the FSEIR) was based on the reduction of median width from 50 feet to 20 feet for Relocated Route 57.

However, the proposed right of way width for Route 57 and the ramps have been further refined in order to achieve a reduction in direct losses to this Farm of about 2 acres.

In addition, any prime topsoil within the proposed Route 57 right of way through the Schmaelzle property can be stripped and stockpiled by the construction contractor for use by the Farm owner. Details of this arrangement will be formulated during the final design phase. Other mitigating measures for the Schmaelzle Farm will include replacement of the existing farm pond in Wetland Area No. 11 and buffer considerations between Route 57 and the remaining farmlands to the south.

The proposed project will not affect the existing access from South Westfield Street to the remaining portion of the Schmaelzle Farm and its farm woodlot. In response to the owner's request, the MHD has agreed to make provisions in the construction contract to have timber removed from the farm woodlot to be set aside for recovery by the Farm owner.

Summary of Total Direct & Indirect Farmland Losses

Based on the design refinements noted above, the following Table No. 1 summarizes the current direct and indirect farmland losses (in acres) as compared to the acreages presented in the DSEIR and FSEIR documents:

Farm Identification	TOTAL DIRECT LOSSES Current	FSEIR	DSEIR
Boglisch	15	19*	19
Tuckahoe	29	31	24
Schmaelzle	15	17	17
Total Direct Losses (Acres)	59	67	60

	TOTAL INDIRECT LOSSES Current	FSEIR	DSEIR
Boglisch	0	4*	1
Tuckahoe	1	1	32
Schmaelzle	0	0	0
Total Indirect Losses (Acres)	1	5	33
TOTAL DIRECT & INDIRECT LOSSES (Acres)	60	72	93

* These figures do not account for the approved Boglisch Subdivision Plans which effectively would have converted about 6 acres of existing farmland into residential land usage.

Other Major Farmland Issues

The MHD will be continuing its coordination with the MA DFA and the property owners with respect to further mitigation measures for each of the affected farmland parcels. Major issues to be addressed and resolved during the subsequent final design/right of way appraisal phases of the Route 57 project include such items as:

- Stormwater management and drainage system designs to preserve soil and water quality within the remaining farmlands. (Refer to discussions hereinafter presented under Stormwater Management.)

- Landscape buffers, fencing and other farm infrastructure concerns.

- Maintaining roadway accessibility into the farmlands during construction so as to minimize impacts to ongoing farming operations (particularly for the Boglisch Tree Farm).

E. Wetlands

This section of the Addendum to the FSEIR provides more detailed and updated information on existing wetland resources, the impacts associated with the proposed project, and the proposed mitigation measures to compensate for wetland losses, particularly with respect to the Interests of the MA Wetlands Protection Act. It also presents the necessary information relative to requesting a variance from the Regulations (310 CMR 10.00) by the Commissioner of the MA DEP.

Some of the information presented herein is similar to that contained in the previously submitted DSEIR and FSEIR documents for the Route 57 Relocation (Phase II) project. This consolidation of information into a single document is intended to facilitate the review of the overall wetland issues without necessitating extensive reference to the DSEIR and FSEIR documents.

Existing Conditions

Wetland recourse areas within and adjacent to the project area were identified and delineated in accordance with the definitions of the Massachusetts Wetlands Protection Act and Regulations. The wetlands were also delineated in accordance with the 1987 Federal Wetland Delineation Manual. The limits of wetlands established using State and Federal criteria are similar throughout the project area. These limits were flagged in the field and the flagging was field surveyed by the MHD. The wetland limits shown on the plans included the DSEIR, the FSEIR and this Addendum are based on plotting of the field survey data.

In accordance with the provisions of the Massachusetts Wetlands Protection Act (G.L. c.131, s.40), a Request for Determination of Applicability (RDA) was filed with the Conservation Commissions of Agawam and Southwick in August, 1994. The purpose of a RDA is to seek the local Conservation Commission's approval of the existing wetland boundaries as delineated in the field and shown on the design plans. Property owners of impacted wetland resource areas were notified via certified mail of the RDA filing and the Public Hearing. The Public Hearing was held in Agawam on August 25, 1994, and in Southwick on September 6, 1994. As evidenced by the documents in Appendix 2, the existing wetland resource area boundaries shown on the plans were approved by both local Conservation Commissions. The letter from the US COE approving the existing wetland delineations by Federal criteria is also included in Appendix 2.

Due to the numerous build alternatives which were evaluated in the DSEIR, a total of eighteen (18) wetland resource areas were identified within the study area and delineated using Federal and State criteria. The selected build alternative for the proposed project (Alternative IV(a)) will only impact eleven (11) of these identified wetland areas (Wetland Nos. 1, 2, 3, 7, 9, 10, 11, 12, 13, 14 and 15).

The following is a summary description of the existing wetland resource areas impacted by the proposed project. The Wetland Delineation Transect Maps and the Wetland Data Forms providing more detailed information on vegetation, soils and hydrology at the various transect locations is contained in the Technical Appendix 1 of the DSEIR and the Supplemental Data - Wetlands (separate volume submitted with the DSEIR), dated April, 1993.

Wetland Area #1 is located within the Tuckahoe Turf Farm property. This area consists of palustrine, forested, broad-leaved deciduous wetlands. Within the wetland area is an unnamed tributary to Still Brook, flowing in a southerly direction. The canopy species include musclewood, sugar and red maple, black willow, American elm and green ash. The understory was dominated by arrowwood viburnum and American elm saplings. Ground cover consists of jewelweed, cinnamon fern, false nettle, mosses and violets. The wetland area within the proposed right of way is confined between the somewhat steeply sloping banks to the east and west. The stream associated with this appears to be permanently flooded.

Area #1 includes all four resource areas: Bordering Vegetated Wetlands, Bank, and Land Under Waterways, and Land Subject to Flooding. The BVW area can be classified as a swamp and borders an unnamed tributary to Still Brook. Inland wetland indicator species present include red maple, American elm, and arrowwood viburnum. The banks are heavily vegetated with trees and shrubs with moderate to steep slopes. The Land Under Waterways consists of fine mineral soil.

Wetland Area #2 is also located within the Turf Farm property, west of Area #1 and is bounded by a dirt roadway to the east. An unnamed tributary to Still Brook flows through this area in a southwesterly direction. This stream appears to be above the headwaters and has a poorly formed channel. The area consists of a palustrine forested and emergent wetlands. The dominant vegetation within the forested wetland area consists of an overstory of red maple, grapevine, and yellow birch, with an understory of raspberry, arrowwood viburnum, silky dogwood and musclewood. Ground cover consists of skunk cabbage, lady fern, cinnamon fern and sensitive fern. The emergent vegetation adjacent to the stream area consists of common cattail and jewelweed.

Area #2 consists of a Bordering Vegetated Wetland. Dominant wetland plants within the swamp area include red maple, arrowwood viburnum, silky dogwood, sensitive fern and skunk cabbage.

Wetland Area #3 is located east of South West Street, north and south of the Turf Farm driveway and west of Area #2. An unnamed tributary to Still Brook flows through this wetland in a southerly direction. This stream is piped under the Turf Farm driveway through two 60" reinforced concrete pipes. A pond has been constructed just south of this driveway and is used for irrigation purposes. The topography of the area is steeply sloping to the stream. The wetland boundary corresponds closely to the toe of slope.

The wetland is classified as a palustrine, forested, broad-leaved deciduous and palustrine emergent wetland. The forested wetland area south of the driveway consists of an overstory of gray birch, American elm and red maple with silky dogwood, black willow saplings and jewelweed as dominant understory species. Ground cover species include sensitive fern, common cattail, sedge and lance leaved goldenrod. The area north of the Turf Farm road consists of forested wetlands with an emergent area adjacent and parallel to the stream. The forested area is similar to the southern wetland area. The emergent area is dominated by arrow leaved tear thumb, jewelweed and juncus. The wetland area is semipermanently flooded.

Area #3 includes all four resource areas. The BVW area can best be described as a swamp area vegetated with red maple, American elm, silky dogwood, jewelweed, skunk cabbage and sensitive fern. The bank topography within the study area is steeply sloping and heavily vegetated. Erosion is evident in areas along the eastern bank. Land Under Waterways consists of fine mineral soils.

Wetland Area #7 is part of the Leonard Pond Wetland System. It is located east of Provin Mountain and within the Boglisch Tree Farm property. This wetland area parallels an unnamed stream which flows to Leonard Pond. Land adjacent to this area is actively farmed.

The stream associated with Wetland Area #7 flows to a small pond south of the proposed project. This pond appears to be man made. This area is classified as a palustrine emergent and palustrine open water wetlands. Wetland vegetation adjacent to the ponding area consists of burreed, juncus sp. and grasses. The pond has a thick layer of lesser and greater duckweed present. The wetland area north of this pond consists of palustrine, forested, broad leaved deciduous wetlands with palustrine emergent wetlands adjacent to the stream. Black and grey birch, common cottonwood and red maple overstory were present in the forested wetland area. The understory consists of highbush blueberry, multiflora rose with red maple and birch saplings. Ground cover present consists of flase nettle, common cattail, lady fern, jewelweed, skunk cabbage, swamp beggers tick, sensitive and cinnamon fern. The dominant vegetation in the emergent area is common cattail. This area is a semipermanently flooded wetland.

Area #7 includes three resource areas (Bordering Vegetated Wetlands, Land Under Waterways and Land Subject to Flooding). The banks in this area are not well defined with the intermittent steam consisting of a braided channel. The vegetation community consists of species including red maple, common cottonwood, birches, highbush blueberry, skunk cabbage and cinnamon fern. A small wet meadow area is present which is dominated by tussock sedge. Land Under Waterways consists of shallow muck.

Wetland Area #9 is located north and south of the existing Route 57 in the Town of Southwick. An unnamed stream flows through this wetland area to Leonard Pond with a portion of the stream piped below existing Route 57.

Palustrine, forested, broad-leaved deciduous wetlands parallel the aforementioned stream, north of existing Route 57. The stream channel north of the existing highway is well defined and wetland boundary follows the toe of the slope.

The stream south of the existing highway has a poorly formed channel with several ground water discharges present. This wetland area drains in a southerly direction to Leonard Pond. Ponding was present adjacent to the stream. Palustrine, forested, broad-leaved deciduous wetlands are present with a small pocket of palustrine emergent wetlands in the northwestern portion, just east of the existing residence. The water regime of the wetland area is semipermanently flooded.

Tree species present in the forested wetland area consists of red maple, eastern hemlock, American elm and grey birch. The understory was dense in areas, consisting of arrowwood viburnum, winterberry, elderberry, jewelweed with elm and maple saplings. Ground cover consists of a mixture of sensitive, royal and cinnamon fern, skunk cabbage, turtlehead, goldenrod sp., New England aster and sedge hummocks.

Area #9 includes the four resource areas. North of existing Route 57 banks are well developed and steeply sloping along the eastern banks. Land under the Waterway consists of a fine mineral soil. South of existing Route 57, the channel and bank area becomes braided and less defined. The Bordering Vegetated Wetland consist of red maple, American elm and eastern hemlock overstory with a highbush blueberry, winterberry and spicebush understory. Ground cover of ferns and sedges were evident.

Wetland Area #10 consists mostly of palustrine, forested, broad-leaved deciduous wetlands with a palustrine emergent wetland present. Both areas are located within the eastern portion of the Turf Farm property. A small unnamed stream flows through this area in a southerly direction and is piped under a dirt roadway just north of the alignment. A ditch and several intermittent ponding areas drain to the stream.

Trees present in this area are American elm, red maple, grey birch, red oak, and yellow birch. Highbush blueberry is dominant in the understory with nannyberry, spicebush, arrowwood and winterberry also present. Herbaceous cover consisted of sensitive fern, sphagnum moss and several species of grass.

The emergent area present consists of juncus and carex species with red clover and grasses also present. It appears that this area was once farmed and recently has been left fallow.

Area #10 consists of all four resource areas. Banks are well developed and heavily vegetated with Land under the Waterway consisting of fine mineral soil. The Bordering Vegetated Wetland consists of a swamp and wet meadow area. The swamp plant community present includes red maple, pin oak, and American elm. Other wetland indicator plant species are highbush blueberry, spicebush and arrowwood viburnum. The small wet meadow area is vegetated with juncus and carex species.

Wetland Area #11 is composed of three classes of the palustrine system: forested, broad-leaved deciduous; emergent; and open water. It is located east of Area #10 and lies north and south of the dirt road leading from the Turf Farm to South Westfield Street.

In the palustrine, forested, broad-leaved deciduous area, red maple and American elm are the dominant tree species with grey birch, white pine, beech and pin oak also present. In the understory highbush blueberry is dominant, with arrowwood viburnum and spicebush also present. Herbaceous cover consists of jewelweed, sedges, sensitive fern, sphagnum moss and marginal wood fern.

The palustrine emergent area is used currently as cow pasture. Many herbaceous species were noted including juncus, blue flag, asters, multiflora rose, sedge hummocks, boneset, and silky dogwood.

A small constructed irrigation pond located within the emergent field constitutes the palustrine, open water area. Area #11 is hydraulically connected to Area #10 through surface flow and some constructed ditches.

Area #11 has the resource areas of Bordering Vegetated Wetland, Land Under Water and Bank. The Bordering Vegetated Wetland consists of a swamp and wet meadow. Wetland indicator species present include American elm, red maple, arrowwood viburnum, blue flag, skunk cabbage and tussock sedge. The Land Under Water includes fine mineral soils underlying a small farm pond. A small vernal pool is also present within Area #11. This pool is located north of the proposed project alignment in the forested wetland area near the existing foot path.

Wetland Area #12 is located north of the existing Route 57, at the westernmost limits of the project in Southwick. This area is classified as a palustrine, forested, broad-leaved deciduous wetland typified by red maple, grey birch saplings in the overstory, cinnamon fern and highbush blueberry found in the understory, with canada mayflower also notably present. Included in this forested wetland is a small emergent areas with tussock sedge hummocks present. Flow from this area is to the south, through a culvert under existing Route 57.

Area #12 is a Bordering Vegetated Wetland which is hydraulically connected to Area #13 to the south of existing Route 57. A hydrophytic vegetational community of red maple, American elm, arrowwood, skunk cabbage, cinnamon fern and sedges is present.

Wetland Area #13 is located south of the existing Route 57 in Southwick, directly across from Wetland Area #12. The vegetational community is defined as palustrine, forested, broad-leaved deciduous wetland, vegetated with red maple, American elm, highbush blueberry, winterberry, skunk cabbage, cinnamon fern, sedge hummocks and sphagnum moss.

This area is hydraulically connected to Area #12 via a culvert under existing Route 57. Direction of surface water flow in this area is to the southeast, discharging to the mapped palustrine open water area adjacent to Area #9, and eventually to Leonards Pond.

Area #13 is a Bordering Vegetated Wetland similar in description to Area #12.

Wetland Area #14 is a small palustrine, forested wetland. It is located adjacent to Wetland #13, separated by a driveway to a residence. The wetland is bounded by a steep slope, existing Route 57 and residences. Typical vegetation within this area is red maple, American elm, hemlock, highbush blueberry, arrowwood, skunk cabbage, cinnamon fern and sphagnum moss. Surface water appears to originate within the wetland area and flow in a westerly direction to a culvert.

Area #14 is delineated as a Bordering Vegetated Wetland area dominated by red maple and American elm trees and saplings. A ground cover of skunk cabbage, sedges, and cinnamon fern is present.

Wetland Area #15 is located at the terminus of the recently constructed Phase I Section of Route 57, east of South Westfield Street. This area is part of a larger wetland complex which extends from Shoemaker Lane south. This wetland drains in a southerly direction to Philo Brook. The SCS maps the stream as originating within this wetland complex.

Wetland Area #15 is largely a palustrine, forested, wetland complex with a red maple overstory and a shrub understory of silky dogwood, nannyberry, arrowwood, winterberry and elderberry. The herbaceous cover is typically sensitive fern, skunk cabbage, jewelweed, jack in the pulpit, meadow rue and trout lily. A palustrine emergent wetland is found adjacent to the stream and consists of sedge hummocks, grasses, skunk cabbage, jewelweed, and cattails.

Area #15 includes all four resources areas. Wetland plants commonly found within the Bordering Vegetated Wetland swamps area include red maple, arrowwood and winterberry with sedges, grasses, and jewelweed found along the stream corridor. The banks are somewhat well defined in this area and area heavily wooded. Land Under Waterway consists of mineral soil.

State Presumptions of Significance

The Massachusetts Wetlands Protection Act (the Act) regulations establish presumptions of the significance of each wetland resource area to the interests of the Wetland Protection Act. The wetland functions were assessed for each resource area and are presented in this section to determine the extent to which each wetland contributes to these interests.

It should be noted that the filling of existing Wetland Resource Area No. 15 (2.23 acres) for the proposed Route 57 roadway will be constructed under the Phase II project. However, this work was included in the Superseding Order of Conditions issued by MA DEP for the Phase I project, and the replacement wetland to mitigate for this filling caused by the Route 57 roadway has already been constructed under the Phase I project. Hence, the following discussions do not include Wetland Area #15. This area, however, is included under the Federal Functions and Values Assessment (refer to separate Supplemental Data Volume to this Addendum).

Bordering Vegetated Wetlands (BVW) - Pursuance to the Act, BVW's are presumed to be significant to public and private drinking water supply, prevention of pollution, groundwater supply, flood control, storm damage prevention, protection of fisheries, protection of land containing shellfish, and protection of wildlife. The following paragraphs evaluate each of these interests with respect to the wetland impacted under the proposed Alternative IV(a) alignment, and Table No. 2 provides a summary of the performance.

- The Town of Agawam receives its drinking water supply from five draw points along the Springfield Water Department Aqueduct and would not be affected by implementation of the project. The Town reports that 47 private wells are in operation. The nearest private wells are located on existing Route 57, west of South West Street. Private wells are also located within the White Fox Estates Subdivision off of South West Street, south of Leonard Pond, and on Pine Street which intersects South Westfield Street, 1/2 mile south of the project area. It is not likely that these private wells will be sensitive to the wetland impacts caused by the proposed project.

  However, the existing private wells at the residences along Southwick Street on Provin Mountain could be sensitive to the construction activities for the Route 57 Relocation Project as a result of the proposed roadway excavations. As reported

in the FSEIR, the final construction documents for the project will include the inventory, testing and analysis of any existing private wells located in the area of influence of the proposed construction work. The investigations would include yield testing and an analysis of water samples, both during and after construction completion. If it is determined that the construction activities had an adverse impact on any of the tested wells, the MHD will be responsible for correcting the situation. This could involve providing the affected property owners with a new well which, at a minimum, meets the performance of the existing well (quantity and quality of the water) prior to the construction.

- Several of the BVW areas delineated within the project are likely to be significant to the prevention of pollution. Areas 2, 7, 9, 10, 11, 12, 13 and 14 are relatively flat, with dense herbaceous and woody growth, and contain saturated anaerobic soils. The erect, persistent vegetation along with slow velocity and seasonal flooding present contributes to this interest. Wetlands 1 and 3 have steeper slopes and higher velocities associated with the tributaries and therefore have only minor significance to the prevention of pollution.

- The wetlands within the project area may be significant to groundwater supplies. The hydroperiods associated with the majority of BVW areas are saturated with spring and seepage areas present. This indicates that most of the wetland areas act as groundwater discharge areas rather than groundwater recharge. Therefore they have only a moderate significance with respect to this interest.

- The tributaries within the project area eventually drain to Still Brook. The tributaries are not mapped within the 100 year floodplain study performed for this watershed. However, Wetland Nos. 1, 3, 9 and 10 have a developed floodplain and bank areas, and most likely contribute to flood control and storm damage prevention. Wetlands Nos. 2, 7, 11, 12, 13 and 14 are in the headwater areas, where little storage is provided. However, all the wetland areas have the potential of retaining and slowing the floodwaters.

- Few of the wetlands within the project area are associated with a perennial stream, therefore their ability to support fishery habitat is limited. Wetland Nos. 1, 3 and 9 appear to be perennial streams, although they exhibit low flows during the summer months. In addition, Wetland Areas 10 and 11 have streams present that may support fisheries. The presence of vegetated banks provides shade which is important for maintaining moderate water temperatures. However, the remaining wetland areas are associated with saturated hydroperiods or intermittent streams. Therefore, their ability to support fish is limited, and they are not significant to this interest.

- None of the wetlands within the project area are directly tributary to any areas which support shellfish.

- All BVW's within the project area are likely to be significant to the protection of wildlife habitat. A large portion of Wetland No. 10 consists of a farmed field which has been fallow for a few years, and consists mainly of grasses and rushes. Approximately three-fourths of the impact area associated with Wetland No. 11 has been cleared for pasture, creating a palustrine non-persistent emergent meadow. The forested area associated with this wetland provides cover for wetland

dependent wildlife. Wetland Nos. 12, 13 and 14 will be minimally impacted and will involve impacts to existing roadside wetlands. The interiors of these wetlands are likely to provide wildlife habitat.

The Wildlife Habitat Evaluation Report (included as a separate Supplemental Data Volume to this Addendum) summarizes the relative importance of five wildlife habitat functions (Support of Wetland-Dependent Species, Support of Threatened, Endangered and Rare Species/Habitats, Support of Habitat/Species Diversity and Abundance, Support of Fisheries, and Wetland Corridor Linkage) for the eleven wetland impact areas. This Table has been repeated herein as Table No. 3.

Vernal pool habitat was found to be present within Wetland No. 11. However, the main body of this pool area is located approximately 100 feet north of the proposed toe of fill slope for the project. Therefore, impacts associated with the highway to the vernal pool are minimal.

TABLE NO. 2

BORDERING VEGETATED WETLANDS - SIGNIFICANT INTERESTS

Wetland No.	Interest						
	WS	GW	PP	SD/FC	FISH	SF	WH
1	-	(+)	(+)	+	+	-	+
2	-	(+)	+	+	-	-	+
3	-	(+)	(+)	+	+	-	++
7	-	(+)	+	+	-	-	+
9	(+)	(+)	+	+	+	-	+
10	-	(+)	+	+	+	-	+
11	-	(+)	+	+	(+)	-	++
12	(+)	(+)	+	+	-	-	(+)
13	(+)	(+)	+	+	-	-	(+)
14	(+)	(+)	+	+	-	-	+

KEY TO INTERESTS

WS - Public or Private Water Supply
GW - Groundwater
PP - Prevention of Pollution
SD/FC - Storm Damage Prevention and Flood Control
FISH - Fisheries
SF - Shellfish
WH - Wildlife Habitat

KEY TO PERFORMANCE

(+) may contribute to Interest
\+ contributes to Interest
++ contributes at high level to Interest
\- does not contribute to Interest

TABLE NO. 3

RELATIVE IMPORTANCE OF FIVE WILDLIFE HABITAT FUNCTIONS FOR ELEVEN WETLAND IMPACT AREAS. H=high; M=medium; L=low. These ratings facilitate comparisons among the subject wetlands and do not refer to some absolute standard of valuation. Since the five functions will vary in relative importance according to the needs and judgment of each evaluator, comparisons among the wetlands can only be made on the basis of one function at a time.

WETLAND WILDLIFE HABITAT FUNCTION	WETLAND IMPACT AREA										
	3	2	3	7	3	10	11	11	13	10	15
Support of Wetland-Dependent Species	M	M	H	M	M	M	M	L	L	M	M
Support of Threatened, Endangered and Rare Species/Habitats	M	M	H	M	H	M	H	M	M	L	L
Support of Habitat/Species Diversity and Abundance	M	M	H	M	M	M	H	L	L	M	H
Support of Fisheries	M	L	H	L	M	M	M	L	L	L	L
Wetland Corridor Linkage	H	L	H	M	M	H	M	M	H	H	L

Land Under Water Bodies and Waterways. Under the Act, Land Under Water Bodies and Waterways are presumed to be significant to public and private drinking water supply, prevention of pollution, groundwater supply, flood control, storm damage prevention, protection of fisheries, and protection of wildlife habitat. The following discussion evaluates each of these Interests with respect to the impacted wetland resource areas, and Table No. 4 provides a summary of the performance.

- As previously stated, the wetlands in which Land Under Water Bodies and Waterways occurs (Wetlands No. 1, 3, 7, 9, 10 and 11) are not tributary to any public drinking water supply. Wetland No. 9 may contribute to private water supply however, private wells should not be affected by the project's wetland impacts.

- The farm pond within Wetland No. 11 is likely to be significant to the prevention of pollution since it has small outlet and probably retains sediments and other contaminants associated with the adjacent farming activities. Wetlands No. 7, 9 and 11 have undefined and braided channels in most portions, and most likely contribute to the prevention of pollution. Periods of seasonal flooding within the densely vegetated BVW's provides for the attenuation and settling of sediments and nutrients. In addition, Wetland Nos. 7 and 9 are underlain by organic soils which aid in the removal of nutrients. Wetlands No. 1 and 3 have limited opportunity for providing this interest due to the higher velocities present, especially during major storm events.

- These areas may be significant to groundwater supply, however, as previously stated, it appears that the wetland areas appear to function as groundwater discharge areas to the adjacent surface waters.

- Wetlands No. 1, 3, 9 and 10 appear to be perrenial waterways. These areas are to be cultivated under proposed Route 57. The sizing of the culverts will be determined so that backwater and overbank flooding will not occur during the 100 year storm events. The remaining Wetland areas, although they do not contain perennial streams, will also be culverted in order to maintain existing drainage patterns.

  Wetlands No. 1, 3, 9 and 10 may support warm water fish, which are likely to utilize Land Under Water Bodies and Waterways for nesting, feeding and overwintering areas. In addition, the farm pond area within Wetland No. 11 may also provide such habitat. The remaining wetland areas are associated with saturated wetland systems or intermittent streams, thus limiting their ability to support fish.

- Wetlands No. 1, 3, 9 and 10 may support aquatic vegetation which provides habitat for aquatic wildlife.

TABLE NO. 4						
LAND UNDER WATER BODIES AND WATERWAYS - SIGNIFICANT INTERESTS						
Wetland No.	Interest					
	WS	GW	PP	SD/FC	FISH	WH
1	-	(+)	(+)	+	+	+
2	-	-	-	-	-	-
3	-	(+)	(+)	+	+	+
7	-	(+)	+	(+)	-	-
9	(+)	(+)	+	+	+	+
10	-	(+)	(+)	+	+	+
11	-	(+)	++	+	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-

KEY TO INTERESTS

WS - Public or Private Water Supply
GW - Groundwater
PP - Prevention of Pollution
SD/FC - Storm Damage Prevention and Flood Control
FISH - Fisheries
WH - Wildlife Habitat

KEY TO PERFORMANCE

(+)	may contribute to Interest
+	contributes to Interest
++	contributes at high level to Interest
-	does not contribute to Interest

Bank. Pursuant to the Act, Banks are presumed to be significant to public and private drinking water supply, prevention of pollution, groundwater supply, flood control, storm damage prevention, protection of fisheries, and protection of wildlife habitat. The following discussion evaluates each of these interests with respect to the impacted wetlands, and Table No. 5 provides a summary of the performance.

- The wetlands in which Bank occurs (Wetlands No. 1, 3, 9, 10 and 11) are not tributary to any public drinking water supply, and private wells should not be affected by the project's wetland impacts.

- The Banks within Wetlands No. 1, 3, 9 and 11 are well vegetated, and protect water quality by reducing erosion and siltation to the adjacent waterway and wetland. The presence of persistent (especially wooded) vegetation aids in the dissipation of erosive forces. Wetland No. 10 has very little persistent vegetation along the ditch, while a vegetative corridor is present along the main tributary area. These areas are significant to the prevention of pollution.

- It is not likely that the Banks within the wetlands in the project area function in groundwater discharge. These areas are bordered by wetlands, and appear to be the sites of groundwater discharge to surface waters.

- The Banks associated with Wetlands No. 1, 3 and 9 are well defined and confine flood waters and generally receive runoff from adjacent upland areas. Wetlands No. 2 and 7 are in the headwaters of the tributary, and have low banks which do not confine flows during flooding. Therefore, within these areas floodflow alternation and storage is provided in the adjacent BVW's.

- The Banks within Wetland No. 1, 3 and 9 confines permanent water that may support fish. The steep topography are likely to be significant to the protection of fisheries. The remainder of the wetland areas have intermittent streams, limiting their ability to support fish.

- All Banks within the project are presumed to be significant to wildlife habitat. The Banks within Wetlands 1, 3, 9 and 11 provide cover, reptile and amphibian habitat, and cover during mitigation.

TABLE NO. 5

BANKS - SIGNIFICANT INTERESTS

Wetland No.	Interest					
	WS	GW	PP	SD/FC	FISH	WH
1	-	-	+	+	+	+
2	-	-	-	-	-	-
3	-	-	+	+	+	+
7	-	-	-	-	-	-
9	(+)	-	+	+	+	+
10	-	-	(+)	(+)	-	+
11	-	-	+	(+)	-	+
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-

KEY TO INTERESTS

WS - Public or Private Water Supply
GW - Groundwater
PP - Prevention of Pollution
SD/FC - Storm Damage Prevention and Flood Control
FISH - Fisheries
WH - Wildlife Habitat

KEY TO PERFORMANCE

(+) may contribute to Interest
\+ contributes to Interest
++ contributes at high level to Interest
\- does not contribute to Interest

Isolated Land Subject to Flooding. Under the Act, Isolated Land Subject to Flooding is likely to be significant to flood control, storm damage prevention, public or private water supply, pollution prevention and wildlife. All the wetlands within the project area are associated with a tributary, and therefore are not classified as Isolated Land Subject to Flooding.

Bordering Land Subject to Flooding (LSF). Bordering Land Subject to Flooding is an area which floods from a rise in a bordering waterway or water body. Such area are likely to be significant to flood control, storm damage prevention and wildlife. The following discussion evaluates each of these interests with respect to the impacted wetland areas, and Table No. 6 provides a summary of the performance.

- LSF associated with Wetland Nos. 1, 3, 9 and 10 have a developed floodplain and bank areas, and most likely contribute to flood control and storm damage prevention. Wetland Nos. 2, 7, 11, 12, 13 and 14 are in headwater areas, where little storage is provided. However, all the wetland areas have the potential of retaining and slowing of floodwaters.

- All the LSF areas within the project area are likely to be significant to the protection of wildlife habitat. Vernal pool habitat was found to be present within Wetland No. 11. However, the main body of this pool area is located approximately 100 feet north of the proposed toe of fill slope for the project. Therefore, impacts associated with the highway to the vernal pool are minimal.

TABLE NO. 6

BORDERING LAND SUBJECT TO FLOODING - SIGNIFICANT INTERESTS

Wetland No.	Interest	
	SD/FC	WH
1	+	+
2	-	+
3	+	+
7	-	(+)
9	+	+
10	+	+
11	-	++
12	-	(+)
13	-	(+)
14	-	(+)

KEY TO INTERESTS

SD/FC - Storm Damage Prevention and Flood Control
WH - Wildlife Habitat

KEY TO PERFORMANCE

(+) may contribute to Interest
\+ contributes to Interest
++ contributes at high level to Interest
\- does not contribute to Interest

Project Impacts

This section provides a discussion of the wetland impacts associated with the proposed project (Alternative IV(a)). Also presented in this section is a discussion of the impacts for the various other build alternatives which have been explored for the Route 57 Relocation (Phase II) project.

The attached Table No. 7 provides a tabulation of the total 9.5 acres of wetland fills associated with the current proposed preliminary design for the Route 57 Relocation Phase II project. This Table is similar to that presented in the FSEIR on Page 19.

The current preliminary designs for the project include implementation of the following design options:

- Provide a grade separation structure at Relocated Route 57/Existing Route 57 (Southwick St.) intersection.

- Delete Bridge at Wetland #7 and provide an animal passageway with 1½:1 rock fill slopes.

- Reduce median width from 50 feet to 20 feet at east end of project, and carry the 20 foot median width throughout the project to the Agawam/ Southwick Town Line.

- Provide a noise barrier along the north side of Route 57 between Sta. 85± and Sta. 108±. The proposed barrier will consist of a combination of free-standing walls (across wetland areas) and earth/rock fill berms (in non-wetland areas).

- No ramps will be provided at the proposed grade separation crossing of Relocated Route 57 and South West Street.

- Provide 2:1 earth fill slopes at all other areas where Route 57 crosses existing wetlands.

TABLE NO. 7

SUMMARY OF WETLAND FILL AREAS (IN ACRES)

WETLAND AREA NO.	FILL AREAS IN DSEIR ALT. IV(a) Bridge @ S. West St.	BASIC 40 Sc. DESIGN FOR ALT. IV(a) • No Ramps @ S. West St. • Bridge @ Wetland #7 • No Bridge @ Exist. Rte. 57 • 50' Median @ East End • Use 2:1 Fill Slopes @ All Other Wetlands	VARIOUS RECOMMENDED DESIGN OPTIONS FOR ALT. IV(A)			PROPOSED DESIGN SCHEME (ALT. IV(a) BASIC DESIGN PLUS OPTIONS A, B & C)
			A Delete Bridge @ Wetland #7 & Add Bridge @ Exist. Rte. 57 (Lowers Profile @ Wetland #7 approx. 23')	B REDUCE MEDIAN WIDTH FROM 50' TO 20' @ EAST END	C PROVIDE 20' HIGH NOISE BARRIER WALL (Sta. 85 to Sta. 106)	
1	0.70	0.55	-	-0.14	+0.05	0.46
2	0.60	0.48	-	-0.04	-	0.44
3	0.64	0.75	-	-	-	0.75
4	0	0	-	-	-	0
5	0	0	-	-	-	0
6	0	0	-	-	-	0
7	BRIDGE	BRIDGE	+0.61 (1½:1 Fill)	-	-	0.61
8	0	0	-	-	-	0
9	0.24	0.26	-	-	-	0.26
10	1.46	1.62	-	-0.22	+0.07	1.47
11	2.97	2.56	-	-0.33	+0.04	2.27
12	0.13	0.19	-	-	-	0.19
13	0.48	0.70	-	-	-	0.70
14	0.07	0.11	-	-	-	0.11
15	2.59	2.63	-	-0.40	-	2.23
TOTALS	9.88	9.85	+0.61 (1½:1 Fill)	-1.13	+0.16	9.49

The Massachusetts Wetland Protection Act (the Act) sets forth eight statutory defined "Interests" which include: (1) protection of water supply, (2) protection of groundwater supply, (3) flood control, (4) storm damage prevention, (5) prevention of pollution, (6) protection of fisheries, (7) protection of land containing shellfish, and (8) protection of wildlife habitat. The Act identifies certain "Resource Areas" which include "Bordering Vegetated Wetlands (BVW), Land Under Water (LUW), Banks, and Land Subject to Flooding (LSF)". Because their alternation is presumed to affect the interests of the Act, any work within these Resource Areas is subject to regulation. In addition to these resource areas, work within 100 feet wide buffer strips surrounding bordering vegetated wetlands and water bodies is also subject to regulation under the Act.

The impacts of implementing the proposed project (Alternative IV(a)) on the "Resource Areas" subject to the regulation under the Act are summarized in Table 8.

Wetland Resource Area No. 15 will be impacted by the filling of 2.21 acres of Bordering Vegetated Wetland and alteration of 0.02 acres of Land Under Water. An existing stream will be culverted under the new Route 57 highway and work will be performed in its Buffer Zone. This work will be done as part of the Phase II construction contract, however, this work is included in the Superseding Order of Conditions issued by Massachusetts DEP for the Phase I project. The replacement wetland to mitigate for the filling of Area No. 15 is also included in the replacement wetland areas constructed under the Phase I project. The work is not, however, included in the US COE Section 404 Permit for Phase I. Therefore, these 2.21 acres of Bordering Vegetated Wetland and 0.02 acres of Land Under Water are not included in the project totals for resources impacted by Phase II in Table 8, but they are included in the project totals under the Federal definition. MHD has agreed to include mitigation for the Route 57 roadway fill in Wetland No. 15 in both Phase I and Phase II. Hence, from the standpoint of MA DEP criteria, the proposed Phase II project will require the filling of 7.36 acres of Bordering Vegetated Wetland/Land Under Water.

Wetland Resource Areas No. 10 and 11 both exceed 20 acres in area and include both wooded swamps and emergent areas. These Resource Areas contain streams which are tributary to Still Brook, but they are not part of the Leonard Pond system. The proposed project will require the filling of approximately 1.4 and 2.1 acres of Bordering Vegetated Wetland in Area No. 10 and 11, respectively. Work will be performed in the Buffer Zones around each wetland. Each of these wetlands contain a flowing stream which must be culverted beneath the proposed highway embankment. The culverting of these streams involves the alteration of Banks and Land Under Water. Each Resource Area contains Land Subject to Flooding which will be impacted by the placement of fill for the highway embankment. In Wetland #11, a portion of the Farm Pond will be filled however, the Pond will be replaced to its original size just outside the proposed toe of fill slope.

Wetland Resource Area No. 1 is a wooded swamp containing over 6 acres and borders a stream which are tributary to Still Brook, but it is part of the Leonard Pond system. The proposed project will require the filling of about 0.4 acres of Bordering Vegetated Wetland and work in its contiguous Buffer Zone. The culverting of the stream results in the alteration of Land Under Water (0.05 acres) and the loss of about 350 feet of Bank. Filling will result in the loss of 0.13 acres of Land Subject to Flooding.

Wetland Resource Area No. 2 as a whole contains over 16 acres and includes both wooded swamp and emergent areas. The proposed project will require the filling of 0.44 acres of Bordering Vegetated Wetland and alteration of the adjacent Buffer Zone. The proposed project will also impact 0.13 acres of Land Subject to Flooding in this Area.

Wetland Resource Area No. 3 contains a total of over 12 acres of land and includes both wooded swamp and emergent areas. The Resource Area contains a stream which is a tributary to Still Brook, but is not part of the Leonard Pond system. The proposed project will require the filling of about 0.55 and 0.20 acres respectively of Bordering Vegetated Wetland and Land Under Water. Resource Area No. 3 contains a stream which must be culverted and Land Subject to Flooding which will be filled. Approximately 350 feet of Bank will be impacted.

Wetland Resource Area No. 7 contains a total of over 5 acres of land and is a tributary to the Leonard Pond system. The proposed project will require the filling of about 0.6 acres of Bordering Vegetated Wetland. In addition, Land Under Water and Land Subject to Flooding will be impacted.

Wetland Resource Area No. 9 encompasses about 1.5 acres and includes both wooded swamp and emergent areas. It borders a stream which will be altered. The proposed project will fill about 0.2 acres of Bordering Vegetated Wetland and the Buffer Zone will be altered. Impacts to the stream will result in the alteration of 0.08 acres of Land Under Water, 0.14 acres of Land Subject to Flooding and 300 feet of Bank.

Wetland Resource Area Nos. 12, 13 and 14 are wooded swamps which lie adjacent to existing Route 57 near the Agawam/Southwick Town Line. Proposed construction will fill a total of about 1.0 acres of Bordering Vegetated Wetland in these three (3) areas (0.2 acres in Area No. 12; 0.7 acres in Area No. 13; and 0.1 acres in Area No. 14).

The Route 57 corridor extends for about 2½ miles in length and lies in an east-west orientation. The corridor is repeatedly divided throughout its length by wetland systems which lie in a north-south orientation. Many of these north-south wetland systems extend for the full width of the corridor.

Relocated Route 57 is classified by the MHD as an Urban Principal Arterial. Although the Route 57 corridor has been under study for over twenty years, no practicable build alternative has ever been identified which involves filling less than 5,000 sq.ft. of bordering vegetated wetland. As fills in excess of 5,000 sq.ft. are not "in conformance" with regulatory thresholds, no alternative has yet been identified which fully satisfies the procedural requirement of Section 10.58 of the Act.

The DSEIR presented plans and more detailed descriptions of the various alternatives explored evaluated for the Phase II project. A summary of these alternatives and an explanation of why each is considered unreasonable is set forth below.

Alternatives III/III(a). These Alternatives were considered to be feasible build alternative alignments for the project, and their impacts were evaluated in detail in the DSEIR and as part of the US COE Highway Methodology (Phase 2).

Alternatives III and III(a) necessitate filling a total of 6.6 to 6.4 acres respectively of bordering vegetated wetland/land under water in Wetland Nos. 1, 2, 3, 9, 10, 11, 12, 13 and 14. In addition, the alignment for these Alternatives required the crossing of Wetland Nos. 4, 5 and 6 which would have required bridging to eliminate wetland fills in these areas. Without bridging, a total of about 1.6 acres of additional wetland fills would occur in these three (3) areas within the Leonard Pond wetland system (0.6 acres in Area No. 4; 0.9 acres in Area No. 5; and 0.1 acres in Area No. 6). Hence, without bridging, the total filling for Alternatives III and III(a) would increase to 8.2 and 8.0 acres respectively.

TABLE NO. 8

MASSACHUSETTS WETLANDS PROTECTION ACT
SUMMARY OF IMPACTS ON WETLAND RESOURCE AREAS

PROPOSED PHASE II PROJECT
Alternative IV(a)

Resource Area No.	Total Exist. Area (Acres)	Bordering Vegetated Wetland (Acres)	Land Under Water (Acres)	Land Subj. to Flooding (Acres)	Bank (LF)
1	6.51	0.41	0.05	0.13	350
2	16.20	0.44	-	0.10	-
3	12.36	0.55	0.20	0.60	350
4	11.49**	-	-	-	-
5	3.14**	-	-	-	-
6	1.47**	-	-	-	-
7	5.48	0.60	0.01	0.56	-
8	43.26**	-	-	-	-
9	1.45	0.18	0.08	0.14	300
10	17.58*	1.40	0.07	0.17	600
11	19.59*	2.12	0.15	0.10	250
12	5.06	0.19	-	-	-
13	4.01	0.70	-	-	-
14	0.07	0.11	-	-	-
15	23.35	(2.21)	(0.02)	(0.11)	(300) [A]
TOTALS		6.70	0.56	1.80	1,850

* Partial Area, Wetlands Extend Beyond Mapping Limits.
** Impacted by Other Discarded Alternatives Only.

[A] Included in MA DEP Superseding Order of Conditions for Phase I Project, Not Included in Totals Shown.

Because the total required wetland fill exceeds 5,000 sq. ft. for either Alternative III or III(a), these Alternatives are not "in compliance with the regulations".

Alternative III or III(a) was not selected as the Least Environmentally Damaging Practicable Alternative (LEDPA) by the US COE. The alignment for these Alternatives had more impact on the Leonard Pond wetland system than the Selected Alternative IV(a) and it also bisected the farmlands in the Boglisch Tree Farm.

Alternatives III and III(a) are not considered to be reasonable.

Alternative II. This Alternative involves the reconstruction of Route 57 on a new alignment about 2200 feet south of the selected Alternative IV(a). Alternative II was the subject of the 1979 EA/Negative Declaration and was once selected for consideration.

This Alternative necessitates filling a total of 12.7 acres of bordering vegetated wetland. Wetland Nos. 1, 2, 3, 8, 9, 10, 11, 12, and 13 are impacted.

Because the total required wetland fill exceeds 5,000 sq.ft., this Alternative is not "in compliance with the regulations".

Construction of Alternative II requires filling 4.1 acres of Wetland Area No. 8 which is contiguous to Leonard Pond, effectively bisecting what is now a contiguous wetland and open space area. Although Alternative II is desirable from a vehicular operations point of view, it causes disproportionate adverse effects on wetlands and wildlife and has been dismissed.

Alternative II is not considered to be reasonable.

Full Relocation Alternatives. In the early 1970s, the Massachusetts Highway Department considered relocating Route 57 as a limited access divided highway extending from Suffield Street in Agawam to Hillside Road in Southwick. As indicated in Figure II-6 of the DSEIR, six of these Full Relocation Alternatives (Lines B, C, D, E, F, G, and W) were developed. Except for Line C, all were rejected due to adverse community and environmental impacts. Impacts on wetlands for the portion of their alignments in Agawam are comparable to or more adverse than the impacts of Alternative II. The portion of Line C in Agawam, was later refined and serves as the basis for Alternative II.

Because the total required wetland fill exceeds 5,000 sq.ft., none of the Full Relocation Alternatives are "in compliance with the regulations".

In comparison to the proposed Alternative IV(a), the Full Relocation Alternatives cause greater adverse impacts on the communities and on the natural environment, including adverse effects on wetlands.

The Full Relocation Alternatives are not considered to be reasonable.

Upgrade Existing Route 57. This Alternative involves substantial construction both on new alignment and within existing roadway rights-of-way. The westbound highway off ramp provided under Phase I (Phase C) is reconstructed and South Westfield Street is widened to provide 4 lanes north of and 5 lanes south of Shoemaker Lane. Southwick Street (Existing Route 57) is widened to four lanes and left turns are restricted between South Westfield Street and South West Street.

This Alternative requires filling approximately 1.4 acres of wetland. Reconstruction of the ramps approaching South Westfield Street require filling 1.1 acres of Wetland Area No. 15. The proposed construction would also necessitate filling 0.1 acres of Wetland No. 9, 0.1 acres of Wetland No. 12, and 0.1 acres of Wetland No. 13.

Because the total required wetland fill exceeds 5,000 sq.ft., this Alternative is not "in compliance with the regulations".

This Alternative is not comparable to the other build alternatives which relocate Route 57 onto a new right-of-way in terms of safety, vehicular operations, and control of access. Due to the many existing properties along South Westfield and Southwick Streets, limitations on access are not practicable and traffic flow is disrupted by turns at driveways. Local and through traffic continues to be mixed on a single roadway. Widening South Westfield and Southwick Streets transforms these roadways into highway scale facilities. All of their remaining rural character is destroyed. This segments the community and affects the residential quality of contiguous neighborhoods.

Because work is required within existing traveled ways, there is substantial disruption of vehicular and pedestrian traffic during construction. Already serious capacity deficiencies deteriorate further during the construction period and motorists experience increased delays. Detours and disruption of traffic during construction cause secondary noise and traffic impacts on local roadway by-passes.

The Upgrade Existing Route 57 Alternative necessitates relocating 9 businesses and 11 dwelling units. A 7 foot wide strip of land must be acquired from all properties fronting on Southwick Street east of South West Street. A 7 to 11 feet wide strip must be acquired from all properties fronting on South Westfield Street. Left turn restrictions adversely affect commercial properties. The roadway reconstruction requires excavation of a 20 to 25 foot wide strip along the front of an ancient cemetery fronting on Southwick Street. The number of graves which may have to be relocated has not been determined, however, this disturbance is expected to be of special concern to the Town.

Although there are no properties on the National Register of Historic Places directly impacted by this Alternative, the three residences to be demolished at the intersection of Southwick and South West Streets are of concern to the Agawam Historical Commission. Their demolition results in an irreversible loss of cultural resources.

The Upgrade Existing Route 57 Alternative causes greater noise and fugitive dust impacts during construction and greater noise impacts in the long term, than the alternatives which relocate Route 57 onto a new alignment.

The Upgrade Existing Route 57 Alternative is not considered to be reasonable.

Alternative V. This Alternative also involves the relocation of Route 57 between South Westfield Street and the Agawam/Southwick Town Line. The ramp approaching South Westfield constructed during Phase I (Ramp C) is modified and the 3200 foot segment of South Westfield Street between Relocated Route 57 and Shoemaker Lane is reconstructed as a four lane divided roadway. Relocated Route 57 extends west from the Shoemaker Lane as a four lane limited access highway.

This Alternative requires filling a total of about 6.0 acres of wetland. Reconstruction of the ramps approaching South Westfield Street involves filling 1.1 acres of Wetland No. 15. The Alternative also requires filling approximately 1.0 acres of Wetland No. 3, 0.4 acres of Wetland No. 16, 1.5 acres of Wetland No. 17, 1.1 acres of Wetland No. 18, 0.2 acres of Wetland No. 9, 0.1 acres of Wetland No. 12, 0.5 acres of Wetland No. 13, and 0.1 acres of Wetland No. 14.

Because the total required wetland fill exceeds 5,000 sq.ft., this Alternative is not "in compliance with the regulations".

This Alternative is not comparable in terms of vehicular operations, safety, and convenience to the Alternatives which relocate Route 57 onto a new right-of-way with full control of access. Safety and operational problems arise from using a short segment of South Westfield Street to link two segments of higher speed, limited access highway. These safety problems are caused by the variable differential speeds and vehicle conflicts resulting from mixing local and through traffic.

Construction of Alternative V causes greater relocation impacts than any of the other build alternatives. It requires the relocation of 3 businesses, a church, and 86 dwelling units, of which 77 are within Pheasant Hill Village, which is "Section 8" subsidized housing for the elderly and low and moderate income families. This excessive relocation disrupts community cohesiveness. Relocation of the elderly and low and moderate income families presents particular hardships. Alternative V also encroaches on a portion of an ancient cemetery on South Westfield Street. Whether any graves have to be relocated has not been determined, however, any impacts on this cemetery are expected to be of special concern to residents.

Due to the proximity of residences, Alternative V causes greater construction and long term noise impacts than the selected Alternative IV(a).

Alternative V is not considered to be reasonable.

Alternative V(a). This Alternative also involves the relocation of Route 57 between South Westfield Street and the Agawam/Southwick Town Line. The ramp reconstruction and the South Westfield Street improvements are comparable to those provided under Alternative V. It extends west from Shoemaker Lane to South West Street as a two lane two way roadway with no control of access and it incorporates an existing street in Pheasant Hill Village as a segment of the highway.

This Alternative requires filling a total of approximately 3.1 acres of wetland. Reconstruction of the ramps at South Westfield Street requires filling 1.1 acres of Wetland Area No. 15. Other required wetland fills include approximately 0.2 acres of Wetland No. 3; 0.2 acres of Wetland No. 16; 0.7 acres of Wetland No. 17, 0.2 acres of Wetland No. 9; 0.1 acres of Wetland No. 12; 0.5 acres of Wetland No. 13; and 0.1 acres of Wetland No. 14.

Because the total required wetland fill exceeds 5,000 sq.ft., this Alternative is not "in compliance with the regulations".

One segment of Alternative V(a) utilizes an existing road through "Pheasant Hill Village", which is a 200 unit Massachusetts Housing Finance Agency (MHFA) subsidized development containing housing for the elderly, the handicapped, and low and moderate income families. Pheasant Hill Village contains about 50 percent of the subsidized affordable housing units in the Town of Agawam. Pheasant Hill Village is a quiet cohesive residential community that Agawam regards as a notable step in attaining its policy of providing an adequate supply of affordable housing. Conversion of a quiet residential street to a primary regional arterial highway causes significant adverse impacts on vehicular safety, particularly with respect to the children, the elderly, and handicapped residents. Residential quality is degraded by disruption, noise, traffic, and dust during construction.

This Alternative is substantially inferior to the other Alternatives in terms of vehicular operations, travel time, safety, and convenience. Unlike all other alternatives, Alternative V(a) is restricted to one travel lane in each direction, which results in significant capacity deficiencies and delays. When the facility is completed, it will already be at capacity during both peak hours. Increases in traffic volumes between 1993 and 2013 cause the capacity of the roadway to be exceeded, accompanied by excessive congestion, unacceptable delays, and lines of queued vehicles.

Lines of idling vehicles emit a higher level of carbon monoxide than vehicles which experience better operating conditions. Therefore the Alternative's substandard vehicular operations contribute to air pollution, particularly to short term carbon monoxide (CO) concentrations.

Unlike Alternatives III, IV, and V, there are no controls on access along the right of way for Alternative V(a). Therefore development is stimulated along its entire frontage. Abutting landowners could subdivide their property into building lots without incurring the cost of constructing subdivision roadways. Therefore the land along the corridor is expected to be rapidly developed. This rapid development adversely affects the Town and increase demand on schools and other municipal services.

This induced development also increases sedimentation and erosion during construction and increases stormwater runoff on a permanent basis. This stormwater contains contaminants typical of residential sites. These changes in hydrology and contaminant loadings could adversely affect water and wetland resources. Many of these residences may have septic systems which contribute effluent to groundwater.

Construction of the Alternative V(a) requires relocating 1 business, 14 dwelling units, and a church. The roadway's slopes encroach on a triangular shaped portion of an ancient cemetery on South Westfield Street. Whether any graves would have to be relocated has not been determined, however, any impacts on this cemetery are expected to be of special concern to local residents.

Due to the proximity of residences, Alternative V(a) causes greater construction and long term noise impacts than the selected Alternative IV(a).

Alternative V(a) is not considered to be reasonable.

Mitigation

This section discusses mitigation concepts for Alternative IV(a), which has been selected as the Lease Environmentally Damaging Practical Alternative (LEDPA) by the US Army Corps of Engineers. The discussion of the mitigation concepts is followed by a description of the proposed mitigation for State and Federally regulated resources and the wetland replication designs.

Mitigation Concepts

As part of the identification and evaluation of environmental impacts, mitigation measures have been developed and evaluated which minimize impacts to the various wetland resources within the project area. Avoidance of wetland impacts would only be possible by implementing the No-Build Alternative.

The proposed project will provide 10.8 acres of compensatory wetland area. With respect to satisfying MA DEP criteria, this results in a ratio of proposed creation to disturbance of about 1.5:1. For Federal criteria, the ratio is about 1.1:1 due to the additional 2.2 acres of filling in Wetland Area No. 15. The proposed mitigation will comply with State and Federal regulations and mitigate for loss of functions and values within the existing wetland resource areas. The losses to the wetlands that perform principal valuable functions will not substantially impair the capacity of the remaining area of each wetland to protect the interests of the MA Wetlands Protection Act.

The proposed wetland replication areas do not meet the performance standards set forth in 310 CMR 10.55(4)(a), which requires replacement of each lost area within the same wetland. Construction of successful mitigation areas contiguous to each of the impacted wetlands is constrained by the size, topography and proximity of abutting developed or future developed lands. It should be noted, however, that all impacted wetland areas (including the proposed replication areas) are tributary to the overall Still Brook watershed.

Careful consideration has been given to the proposed location of compensary wetland areas in order to balance wetland interests and agricultural interests. As shown on the attached plans, agricultural farmlands comprise the majority of the lands available for wetland replication along the proposed Route 57 corridor. In consultation with the MA Department of Food and Agriculture, it was deemed important to avoid any further impacts to the Boglisch Tree Farm and Schmaelzle Farm properties for the construction of compensatory wetland areas.

A majority of the proposed compensatory wetland area (9.7 acres) has been located on the south side of the proposed Route 57 alignment within the former Tuckahoe Turf Farm property which is presently owned by the Town of Agawam. The location of these proposed wetland areas has been coordinated with the Town and it is compatible with the Town's present master plan for a passive recreation area in proximity to the proposed wetland areas. As previously noted, the Town is in the process of negotiating a proposed Agricultural Preservation Restriction (APR) for this 197 acre portion of the former Tuckahoe Turf Farm south of the proposed Route 57 alignment.

Proposed Mitigation

Mitigation is proposed to compensate for the loss of 9.5 acres of wetlands subject to Federal jurisdiction, which includes the 7.3 acres of State regulated wetland resource areas affected by the proposed project. The designs for the wetland replication areas will ensure no net loss of wetland area or functions.

As part of the pilot subsurface exploration program for the project, a series of soil borings and groundwater observation wells were installed in the areas under consideration to be used for wetland replacements.

The initial observation wells were installed in April/May, 1994 and groundwater readings were commenced on May 23, 1994.

As a result of subsequent field meetings and coordination with involved agencies, an additional observation well (B-121OW) was installed in Wetland Replacement Area "A" in August, 1994. At that same time, three (3) of the initial wells (B-116OW, B-119OW and B-120OW) installed within the Tuckahoe Turf Farm were replaced or repaired due to damage sustained from the ongoing maintenance/harvesting of turf on the Farm.

Appendix 3 of this document contains the driller's logs of soil descriptions at each of the groundwater observation wells taken for the project.

The attached Table No. 9 presents a tabulation of the groundwater readings at each observation well through November 21, 1994. The groundwater readings (taken by MHD Survey Crews) will continue to be recorded every two weeks at each well through at least the spring of 1995. These readings will form the basis for the final design of grading and plantings within each of the selected wetland replacement areas.

As stated in the June, 1994 FSEIR, the proposed wetland replacement areas for the selected Alternative IV(a) were Areas "A", "D" and "F". Area "F" was to have a total area of about 1.3 acres (0.3 acres on the north side of Route 57 and about 1.0 acres on the south side). The total combined acreage for Areas "A" and "D" was to be about 8.2 acres.

Based on subsequent field and office meetings with US COE, US EPA, US FWS and MA DEP, the following changes have been agreed to:

- Due to its small area, the 0.3 acre portion of the Area "F" on the north side of Route 57 has been eliminated from consideration. The remainder of Area "F" on the south side of Route 57 will be developed into a replacement wetland area as previously proposed. The proposed wetland construction should not cause any substantial adverse impacts to the adjacent residential dwelling (Bruni Property), which at present will not be taken by the proposed right of way for Route 57. However, if subsequent evaluations/appraisals by the MHD ROW Bureau lead to a taking of this dwelling, the proposed wetland replacement area could be expanded on the south side of Route 57.

TABLE NO. 9
RELOCATED ROUTE 57 (Phase II) Agawam/Southwick
GROUNDWATER READINGS AT OBSERVATION WELLS

DATE	OW 100	OW 101	OW 106	OW 112	OW 113	OW 114	OW 116	OW 117	OW 118	OW 119	OW 120	OW 121
5/23/94	318.7	315.9	223.8	207.9	205.2	202.3	186.0	183.7	205.1	201.1	206.1	-
6/6/94	317.1	315.2	223.1	207.7	205.1	202.1	184.8	182.2	202.6	-	202.9	-
6/14/94	-	-	-	-	-	-	-	-	-	200.2	202.9	-
6/20/94	316.8	315.1	222.0	206.9	205.0	201.9	184.1	182.0	201.8	197.9	202.9	-
7/5/94	317.0	315.2	222.9	204.9	204.9	201.5	Damaged	181.9	200.8	196.8	201.0	-
7/18/94	316.3	314.7	222.6	203.7	204.8	201.2	Damaged	180.6	199.1	193.5	198.6	-
8/1/94	317.6	315.7	222.7	204.0	204.7	201.2	Damaged	182.9	200.8	197.6	201.6	-
8/15/94	316.1	314.9	222.1	204.5	205.0	201.2	Damaged	181.0	198.9	194.0	198.2	-
8/29/94	317.9	315.7	222.9	208.3	205.4	201.4	186.4	183.5	202.2	199.0	203.1	205.1
9/12/94	316.1	314.7	222.3	207.7	205.8	201.6	182.4	181.3	198.8	194.5	200.1	203.3
9/26/94	318.3	315.7	222.6	207.2	205.5	201.6	184.7	183.8	201.1	199.4	203.1	202.8
10/11/94	317.3	315.5	222.6	207.9	205.7	201.9	185.4	183.1	201.2	198.9	203.4	204.4
10/24/94	317.7	315.9	222.3	207.4	205.6	201.9	184.8	183.7	201.9	199.2	203.3	203.8
11/7/94	317.2	315.5	222.1	207.0	205.4	201.8	184.6	183.2	201.6	198.1	203.1	203.6
11/21/94	317.0	315.4	221.9	205.7	205.1	201.5	184.3	183.0	201.5	197.3	202.6	203.1

- Due to the required deep excavations and steep side slopes for its construction, Area "D" has been eliminated from consideration as a wetland replacement area. Instead, the replication acreage in Area "A" will be enlarged to compensate for the deletion of Area "D".

- At the November 4, 1994 meeting with Federal Agencies, concern was expressed on the indirect impacts to wildlife functions in the remaining portions of Wetland Area No. 15 between the proposed Route 57 roadway and existing Ramps C and D. This issue has been addressed by enlarging the proposed replication area in area "A" (East Area) by 1.3 acres without affecting the bordering forested uplands.

Conceptual grading and planting plans have been prepared for each of proposed wetland replacement areas. It should be noted that these designs have been based on the groundwater observation readings taken to date and are subject to revisions and refinement based on the results of the continuing recording of groundwater readings at each observation well through next spring.

The present acreage of proposed wetland replications within each area is:

Area "F"	=	1.1 acres
Area "A" (West Area)	=	1.8 acres
Area "A" (East Area)	=	7.9 acres
Total	=	10.8 Acres

The conceptual grading and planting plans of each of these wetland replacement areas are attached at the end of this document.

In addition, the Draft Reports for the Function and Value Assessment of Wetland Areas and for the Wildlife Habitat Evaluation are presented as Supplemental Data in a separate document. This document is being distributed to EOEA, the Cooperating Agencies (US COE/US EPA/US FWS), MA DEP, and MA Audubon Society, and the MA Division of Fisheries and Wildlife.

The following is a description of the two (2) proposed wetland replication areas including the mitigation measures to protect the interests identified in the MA Wetlands Protection Act.

AREA A. This proposed wetland replacement area is located on the former Tuckahoe Turf Farm (now owned by the Town of Agawam) adjacent to Wetland Areas #1 and #2, south of the proposed highway alignment. The existing area is predominately vegetated with grasses (cultivated), and late field vegetation, with a small area consisting of small shrubs, and upland forest.

Two separate areas will be utilized to develop a total of about 9.5 acres of Bordering Vegetated Wetlands. These areas will be excavated to facilitate a saturated environment similar to the adjacent existing Wetland No. 1 and 2, and will be hydraulically connected to these existing wetland areas via groundwater and a grassed swale.

Each area will consist of a proposed mosaic of shrub, sapling and emergent plantings indigenous to the area. The gentle side slopes of each area will be planted with a wild flower mix to provide an aesthetically pleasing environment as well as stabilizing soil conditions. The steeper slopes adjacent to proposed Route 57 will be seeded with a mix designed to prevent erosion and sedimentation of adjacent wetlands. These side slope areas (which total about 0.5 acres) are not included in the total calculated acreage of proposed wetland replications noted above (10.8 acres).

A pond of about 0.2 acres in size will provide Land Under Water in the easterly area of mitigation Area A. This pond, in conjunction with the adjacent proposed dense shrub plantings, will provide escape, cover, breeding habitat and food resources for terrestrial, amphibian and aquatic wildlife species.

A grassed swale of about 650 feet in length is also proposed within this easterly area. This channel will provide Land Under Water during seasonally wet periods, as well as creating bank and edge environments.

In addition to performing important wildlife functions, replication Area "A" will protect other interests of the Act. The natural filtering ability which enables wetlands to trap sediments and contaminants will prevent pollution of the adjacent surface waters and wetlands, and groundwater resources. Furthermore, this area will also provide flood storage volume and will replicate floodplain area lost.

AREA F. This proposed wetland replacement area is located just west of the Southwick/Agawam town line and Provin Mountain, adjacent to Wetland Area #9 and south of the proposed Route 57 alignment. This site is currently occupied by existing Route 57, early field species and roadway fill. The area also includes small portions of a lawn/garden area associated with the adjacent dwelling, and an upland forest consisting of young saplings predominantly sumac. This site, approximately 1.1 acres in size, is located primarily within the previously proposed Alternative II right of way which the MHD currently owns. Both of these factors contribute to the desirability of this location for mitigation.

The area will be planted in a mosaic, consisting of emergents, shrubs and saplings. The emergents will be planted along the proposed channel and area which will experience frequent flooding. Shrubs are also proposed along the channel, providing for sediment stabilization and slowing of floodwaters. Saplings are proposed in the higher elevations of the proposed area. These saplings will provide both a natural barrier from the proposed highway and will blend with adjacent forested lands.

Area F will consist of Land Under Water, Bank, Land Subject to Flooding, and Bordering Vegetated Wetlands. The existing Route 57 culvert will be removed and replaced by a natural channel, providing Land Under Water and associated Bank. The Land Under Water will consist of organic and mineral soils excavated from wetland impact areas. Adjacent to these resource areas will be Bordering Vegetated Wetlands, also functioning as Land Subject to Flooding.

This replication area will provide a swamp/scrub-scrub environment which will perform various functions and interests identified in the Act. Such interests include storm flood control and damage prevention, and protection of fisheries. The vegetational community will remove sediments and nutrients associated with the relocated highway and adjacent farm field, providing a setting which will perform the wetland interest of the prevention of

pollution. The resource areas will have the capacity to provide habitat and food for wildlife during migratory, overwintering and breeding seasons.

The conceptual designs for the proposed grading and plantings for the Wetland Replacement Areas "A" and "F" are depicted on Figure Nos. 1, 2 and 3. These designs have been based on the groundwater observation readings taken to date and are subject to revisions and refinements based on the results of the continuing recording of groundwater readings at each observation well through at least the Spring of 1995.

As previously stated, the existing pond within Wetland No. 11 on the Schmaelzle Farm property will be replaced on the south side of Route 57. Farm property will be replaced on the south side of Route 57. This will compensate for a majority of the Land Under Water impacts within this area.

Construction Techniques

Replication areas will be cleared of vegetation and grubbed following installation of appropriate erosion and sedimentation controls. (Refer to Section F. Stormwater Management of this document for a detailed discussion on the Best Management Practices to be instituted for protection of wetland resources.) The site would be excavated to the appropriate subgrade elevation, as specified on the final design plans, to accommodate the placement of about 18 inches of wetland soils. Grading to appropriate subgrade elevations will be completed before the excavation of existing wetland areas. Slash, stumps and excavated material would be removed from the replication area and disposed at an appropriate location outside the buffer zone.

After excavations and slopes are rough graded, replication areas will be backfilled with wetland soils and graded to final grades for planting. Wetland soils for use in the replication areas that are excavated from on-site wetland impact areas will be transferred directly to the replication areas. If, because of unforeseen circumstances, this is not possible, wetland soils would be stockpiled in non-wetland locations and wetted as necessary to prevent drying and oxidation. If on-site wetland soils do not yield adequate amounts of appropriate soils, additional topsoil (loam) mixed with peat would be used. Once the base elevations of the replication areas have been established, side slopes will be finished graded.

Wetland replication areas will be planted with the appropriate indigenous wetland species, selected based on their wildlife habitat value, structural diversity, and commercial availability. The species selected will replicate the existing wetland vegetation as closely as possible. Additional stabilization after planting the replication areas will be provided by seeding with an appropriate temporary cover mix. All planting will occur in either early spring (April 15 to June 15) or early fall (September 1 to October 15).

Upon completion of the wetland replication areas, a MA DEP/US COE approved monitoring program will be instituted. At a minimum, the replication areas will be reviewed and evaluated at the end of the first complete growing season and during the second growing season to determine the success of replication efforts. If the replication areas, during the second season, do not support 75 percent coverage of wetland species appropriate remedial action will be determined and taken to ensure that the performance standards are met.

Variance - Massachusetts Wetlands Protection Act

The MA DEP regulates state wetlands in accordance with the Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40) and Regulations (310 CMR 10.00). The MA DEP provides policy guidance, administrative oversight, and technical assistance for the Conservation Commissions who are responsible for implementation and enforcement of these regulations.

An Order of Conditions under the Massachusetts Wetlands Protection Act will be required for this project since construction of the proposed Route 57 Relocation (Phase II) project will result in work within areas subject to jurisdiction under the Act. A Notice of Intent will be prepared for submittal to the Agawam and Southwick Conservation Commissions and the MA DEP when final design has reached the 75% stage of completion.

Based on the preliminary design of the proposed project, impacts to wetland resource areas will not meet all performance standards established in the Wetlands Protection Act Regulations. In particular, more than 5,000 square feet of Bordering Vegetated Wetlands (BVW) will be altered. For this reasons, the project will require a variance of the regulations in accordance with 310 CMR 10.58 by the Commissioner of the MA DEP. Because the proposed project impacts wetland resources in two communities, the request for a variance will be made directly to the Commissioner prior to the filing of a Notice of Intent to the local Conservation Commissions.

This Addendum to the FSEIR has been prepared to provide the basis for MA DEP's review of the proposed project pursuant to the requirements of the Variance.

The Commissioner of the MA DEP may grant a variance of any regulations in Part III of 310 CMR 10.00, provided three conditions are met:

(1) There are no reasonable conditions or alternatives that would allow the project to proceed in compliance with the regulations;

(2) Mitigation measures are proposed that will allow the project to be conditioned so as to contribute to the protection of the interests identified in the Act; and

(3) The variance is necessary to accommodate an overriding community, regional, state or national public interest; or that it is necessary to avoid an Order that so restricts the use of property as to constitute an unconstitutional taking without compensation.

This Addendum provides the following information relative to each of these conditions.

(1) As previously described under Project Impacts, it is not possible to construct the Route 57 Phase II project to be in compliance with the regulations. Over the last 20 years, numerous diverse alternatives have been systematically developed and evaluated for the proposed project. No practicable build alternative has ever been identified which requires filling less than 5,000 square feet of Bordering Vegetated Wetlands. The number, size and north-south orientations of the wetland systems within the various Route 57 corridors studied preclude the possibility of reducing wetland impacts to be within regulatory thresholds.

(2) As previously described under Mitigation, the proposed project will include mitigation measures that will contribute to the interests identified in the Act. Impacts have been minimized by the selection of the least-damaging alternative, and may be further reduced by design modifications during subsequent final design phases. All wetland areas will be protected from erosion and sedimentation by use of state-of-the-art Best Management Practices (BMPs) in accordance with the EPA's Stormwater Management for Construction Activities manual. (A more detailed discussion of these BMP's is presented in the following Stormwater Management Section of this document.) The project will be designed to maintain all stream flows and stream wildlife corridors, and will add features to provide additional water quality protection. Compensatory wetlands will be constructed to ensure that the project results is no net loss of wetland acreage and function.

(3) The proposed Route 57 Relocation (Phase II) project is necessary to accommodate an overriding community and regional public interest.

Existing Route 57 (Southwick Street) has serious traffic safety and operational problems caused by numerous substandard roadway elements. Substandard elements include an excessive number of closely spaced curb cuts, narrow travel lanes, poor sight distance, lack of proper signalization, inadequate pedestrian protection, undefined shoulders and sidewalks, lack of a westbound truck climbing lane approaching Provin Mountain, variable speed zones, and conflicts between local and through traffic. The problems caused by these deficiencies are amplified by the heavy traffic volumes which are forced to use existing Southwick Street because of the lack of an alternative east/west arterial.

These substandard roadway elements are reflected in accident data. The previously upgraded limited access portion of Route 57 east of Mill Street experienced only 15 accidents, while the unimproved portion experienced 138 accidents. Of these 138 accidents, 23 occurred on the segment of Southwick Street (Route 57) between South Westfield Street and the Southwick town line. Ten of these accidents involved personal injuries. The 23 accidents constitute 369 accidents per One Hundred Million Vehicle Miles (100 MVM) which is 138 percent of the statewide average for primary two lane urban roadways. The 10 personal injury accidents constitute 160 accidents per 100 MVM which is 160 percent of the statewide for primary two lane urban roadways.

Currently, Southwick Street west of South Westfield Street carries approximately 14,000 vehicles per day. This will increase to about 20,800 vehicles per day by 2013, an approximate 50% increase. Thus existing congestions and delays will worsen over time.

The intersection of Southwick and South Westfield Streets presently operates at Level of Service F. Improvements to the this intersection are to be provided as part of the separate Phase I project and its Level of Service improves temporarily to D. By the year 2013, growth in traffic volumes causes the operation of the intersection to again deteriorate to Level of Service F.

As stated in October 3, 1990 letter from the US COE to the MHD regarding the purpose and need for the Route 57 Relocation, the basic purpose of the proposed project "*...is to resolve long standing safety and capacity deficiencies, in traffic operations and access, on existing Route 57 in Agawam, Massachusetts and to provide increased traffic capacity while moving traffic along an east-west corridor.*"

Relocated Route 57 accommodates future traffic safely and efficiently, providing good Levels-of-Service both at intersections and on the intervening highway segments. Relocating Route 57 causes through traffic to be diverted to the new roadway. Without the proposed project, the future year 2013 traffic volume on Southwick Street (between South Westfield Street and South West Street) will increase to about 20,800 vehicles per day. The proposed project will reduce this 2013 volume to about 8,000 vehicles per day (a decrease over 60%). Diversion of traffic to the new roadway minimizes conflicts between local and through traffic. The decrease in the total traffic volume on Existing Route 57 alleviates the long standing safety deficiencies and reduces accident potential. The existing roadway is able to accommodate these reduced traffic volumes while providing adequate Levels-of-Service. Traffic operations for the year 2013 at the key intersection of Southwick and South Westfield Streets is upgraded from Level of Service F to B.

The existing capacity deficiencies cause motorists to use local streets to bypass Southwick Street. Under the No Build Condition, increases in background traffic cause more and more motorists to seek alternative routes through local streets. The Proposed Project reduces congestion on Southwick Street and other residential streets, thereby alleviating the adverse effects of bypass traffic on safety and residential quality of local streets.

The existing traffic safety and operational problems along existing Route 57 from Mill Street in Agawam and extending westerly into Southwick were initially recognized by the MHD over 20 years ago.

Since that time, numerous comprehensive transportation planning and design studies have been conducted for improvements to this section of the Route 57 corridor. These studies presented detailed analyses encompassing the comprehensive transportation planning process, including area-wide traffic counts, land use projections, regional growth, traffic demand modelling, origin-destination surveys, and park and ride/transit studies. The more recent analyses presented in the DSEIR and FSEIR for the Phase II project have supplemented the data with updates in base year traffic data, land use assumptions, and input from local and regional planning agencies. All studies performed to date indicate the need to implement traffic safety and operational improvements to the Route 57 corridor.

There is an overriding community and regional public interest in resolving the long standing safety and capacity deficiencies, in traffic operations and access, on existing Route 57. Relocating Route 57 on a new alignment with control of access both accommodates through traffic safely and efficiently on the new highway while alleviating congestion and accident potential on existing Route 57.

F. Stormwater Management

The highest degree of Best Management Practices (BMP's) will be incorporated into the design of the Route 57 Relocation (Phase II) project to effectively aid in the preservation of water quality and the protection of wetland and farmland resource areas throughout the project limits.

The following discussion describes the conceptual plan for various stormwater management measures that will be utilized to mitigate the short and long-term impacts of the project. The exact locations and specifications of these measures will be more precisely defined in the final design phase of the project. As this project continues to move through the engineering design process, the exact area of land disturbed, the amount of cut and fill required, and the duration of construction activities will be more clearly defined. With more detailed information, the volume and intensity of runoff to be controlled can be determined. At that time, the appropriate types, locations, and specifications of BMP's will be more clearly defined and incorporated into a stormwater pollution prevention plan as required for the issuance of a National Pollution Discharge Elimination System (NPDES) General Permit for storm water discharges from a construction site.

Short-Term Impact Mitigation

The construction of the proposed project will require the clearing and grading of vegetated areas as well as work within several wetlands and stream channels. The exposed soils and disturbed stream bottoms will be subject to erosion and sedimentation during construction activities. However, such erosion and sedimentation can be controlled with the implementation of proper design details and specifications. A variety of BMP's may be used to minimize erosion and sedimentation during construction. The following practices are among those to be used to control sedimentation and erosion:

- maintain as much existing on-site vegetation as possible.
- minimize the area and the duration of time that the soil is exposed.
- divert runoff from disturbed areas to vegetated areas.
- stabilize disturbed soil as quickly as possible.
- dissipate and slow runoff flowing across the site.
- provide drainage ways to direct flow, provide temporary storage, and attenuate pollutants from increased runoff.
- remove sediment from storm water runoff before it leaves the site.

The proposed project will incorporate a combination of vegetative practices and structural devices to control erosion and sedimentation during construction. Below is a discussion of specific measurements which will be used by the proposed project to effectively meet the sedimentation and erosion control objectives outlined above.

All wetland areas will be protected from sedimentation by use of state-of-the-art BMP's in accordance with EPA's Stormwater Management for Construction Activities manual. Prior to the initiation of construction activities, erosion control barriers consisting of staked hay bales and siltation fences will be installed at the limit of work where work is proposed within 100 feet of all wetlands. These barriers will remain in place throughout the construction phase of the project and until all slopes and exposed soils have been stabilized by permanent vegetation. In order to assure the continued effective removal of sediments from runoff by these barriers, the barriers will be periodically inspected to determine their condition. At the time of these inspections, accumulated sediments will be removed from the barriers and damaged hay bales and silt fencing will be repaired or replaced as necessary. A soil management and construction operations plan will include a procedure and timetable for cleaning and maintenance of erosion controls.

The proposed project will require the construction of drainage culverts within intermittent and perennial existing stream channels. Of primary concern during this work is the disturbance and exposure of soils and the avoidance of sedimentation to downstream water and wetland resources.

Construction of culverts within intermittent streams (such as existing Wetland Areas #2 and #7) will be scheduled during the dry months when these streams are normally dry. Temporary check dams consisting of staked hay bales and silt fences will be constructed within the channel perpendicular to the direction of flow to prevent sedimentation of downstream waters in the case of a rainfall event during construction.

Construction of culverts within perennial streams (such as existing Wetland Areas #3 and #9) will also be scheduled during the dry months when these streams are at low flow. To maintain existing flows, temporary diversion channels will be provided to divert flows around the construction area of the new culvert. This will maintain a dry work site to prevent sedimentation of downstream resources. Silt fences will be constructed along each side of the temporary diversion channel, and temporary check dams will be provided at the downstream end of the channel.

The proposed project will involve the construction of cut and fill slopes for the new roadway. The necessary land clearing, excavation for cut slopes and placement of fill will create areas of disturbed soil and steep slopes of exposed soil early in the construction process. In order to minimize erosion and sedimentation, the contractor's operators will be regulated and monitored so as to minimize the area and the duration of time that the soils are exposed. All slopes and exposed soils will be stabilized with vegetation as quickly as possible. Roughening the soil surface on steeper slopes with horizontal grooves created by the tread of heavy equipment will reduce runoff velocities, increase infiltration, and trap sediment. By reducing runoff velocities, surface roughening will also promote the establishment of temporary vegetative cover by giving seed a better change to take hold and grow. Once established, the temporary vegetation will further reduce erosion and sedimentation by slowing velocities, increasing infiltration, and trapping sediments.

After the final grading of all slopes has been completed, the slopes will be permanently vegetated to stabilize the slopes and prevent erosion. Following the completion of /grading, a layer of topsoil will be placed on the surface of the slopes and immediately seeded with a fast-growing grass seed and mulched. All temporary erosion control barriers which were established prior to construction will remain in place until the grass has become established and all roadway construction activities have been completed to avoid any sedimentation within adjacent water bodies.

Other short-term BMP's to be incorporated into the design of this project to prevent erosion, sedimentation and the subsequent degradation of water quality include:

- Diversion ditches and swales to carry runoff away from exposed soil surfaces and into temporary sediment basins which will control the rate of outflow and allow sediments to settle out.

- Sediment basins will be provided at the downgrade area of roadway cut sections as they transition into an embankment slope. The ditches along each side of the roadway cut section will have temporary check dams and the runoff will be directed into a sediment basin prior to discharge into the existing watershed. In some cases, the sediment basin will become a permanent feature of the proposed roadway drainage system.

- The construction of proposed embankment slopes will include temporary slope drains and berms in order to carry runoff from the top of the embankment to a lower elevation. This will prevent erosion of the fill slopes until they are stabilized by permanent vegetation.

As the final design development of the proposed project is carried forward, the exact locations where these measures can most effectively be used to control erosion and sedimentation will be determined. At that time the exact sizes and specifications of the diversion ditches, swales, slope drains and berms, and sediment basins needed to control runoff volumes, velocities, and erosion can be determined and incorporated into the project design.

The mitigative measures designed to protect water quality by controlling sedimentation and erosion during construction will insure that the proposed project complies with the NPDES General Permit. During the construction phase of the project, regular inspection and maintenance of the erosion and sedimentation control structures will be conducted to insure that all structures continue to function effectively. Additionally, all slopes will be temporarily stabilized with vegetation as soon as possible to prevent erosion, and they will be permanently stabilized with vegetation immediately following the completion of construction activities.

Long-Term Impact Mitigation

The proposed Route 57 Relocation (Phase II) project will incorporate a variety of structural and non-structural BMP's into its stormwater management system to mitigate for potential long-term water quality impacts. These BMP's will function to reduce stormwater runoff rates and maximize the quality of the runoff by preventing erosion and removing sediments and other pollutants from the runoff before it enters adjacent receiving waters.

Stormwater runoff from roadway surfaces will be collected in catch basins equipped with sumps and hoods over the discharge pipe. When constructed with sumps, catch basins are capable of removing certain pollutants from stormwater runoff. When stormwater flows into the basin, sediment is allowed to settle into a sump. A large proportion of the metals and some hydrocarbons contained in the stormwater runoff are absorbed to sediment particles and thus settle out with the sediments in sediment control structures such as catch basin sumps. Catch basins have been shown to be approximately 50 percent effective in removing sediment and absorbed contaminants such as metals and some hydrocarbons from stormwater runoff.

Stormwater which collects in the catch basins will be directed through a closed drainage system and to discharge outlets located at the bottom of roadway slopes. Outfall protection will be provided immediately below the discharge outlets to effectively transition stormwater runoff from a closed drainage system to an open drainage system and prevent erosion around the outfall. Riprap aprons immediately below discharges are effective means of outfall protection which reduce stormwater velocity to an acceptable level and eliminate the potential for scour below the outfall. Riprap outfall protections will be provided at the downstream terminus of closed drainage systems as well as open drainage system structures.

Velocity dissipation provided by the outfall protection devices is important in preventing erosion due to stormwater discharges. Outfall protection structures must be directly connected to drainage pipes, as gaps would allow erosion. These devices must be installed on relatively low slopes (generally 5 percent or less) in order to prevent the discharged water from regaining velocity which may lead to erosion and sedimentation of downgradient stormwater management structures or surface waters. Outfall protection structures will be sized to adequately reduce the anticipated stormwater flow exit velocities thereby preventing erosion of the receiving channel or basin.

In compliance with Section 401 requirements, all discharge outlets will be set back from receiving waters or wetlands and the outlets will direct runoff through vegetated swales prior to entering the receiving waters or wetlands. Vegetated swales of sufficient length can be very effective in enhancing the quality of stormwater runoff. By slowing runoff velocities, the vegetation within swales promotes infiltration and traps organic and inorganic stormwater constituents. Vegetated swales may also result in reduced volumes of runoff and peak discharges.

The benefit of the high percentage of pollutants trapped in the swale is that these pollutants are subject to aerobic decay. Vegetated swales are more effective than other structures which may be incorporated into stormwater management systems at removing certain pollutants from runoff because of the aerobic environmental provided by the swales. Deposits of sediment that accumulate in retention basins, as well as those deposits in infiltration trenches, are less likely to be subjected to aerobic environments. Organic compounds (including petroleum hydrocarbons) trapped in an aerobic environment such as vegetated swales are more likely to be broken down into carbon dioxide and water than are hydrocarbons trapped in either retention basins or infiltration trenches.

Detention basins will also be incorporated into the design of the proposed project. Detention basins are depressions in which stormwater runoff is temporarily stored and released at a controlled discharge rate, but which will not retain sufficient water to form a permanent water body. The surface of the basin will be lined with hydric soils and vegetated with appropriate wetland plant species that are effective in removing soluble pollutants such as nitrogen, phosphorous, and trace metals which are not removed by sedimentation alone. An impermeable clay layer immediately below the basin will prevent soluble contaminants remaining in the runoff from leaching into groundwater supplies, and will assist in maintaining an appropriate wetland hydrology within the basin. The presence of saturated (anoxic) soils within the detention basin will contribute to pollutant removal through denitrification and other chemical processes.

Detention basins function in stormwater treatment primarily by means of sedimentation. This is achieved through the detention of runoff waters for a sufficient period of time to allow sediments and associated pollutants, such as absorbed trace metals, to settle out. Berms and sinuous swales increase the flow path within the basins and maximize settling. Vegetation growing within the basin also increases detention times and promotes settlement of the sediments.

The proposed project will involve the reconstruction of about 1,800 linear feet of existing South West Street, and about 3,500 linear feet of existing Route 57 (Southwick Street) at the Southwick/Agawam Town Line. At present, the stormwater runoff from these existing roadways does not flow through a stormwater management system which incorporates BMP's to enhance water quality. The existing runoff from these roadways is essentially untreated and in some cases, flows directly into the adjacent wetland resource areas. The incorporation of a stormwater management system which effectively treats runoff from these reconstructed roadways will greatly improve the quality of runoff entering the adjacent wetlands.

Additionally, the proposed wetland replacement areas previously discussed in this document will replace the lost pollutant attenuation capabilities of filled wetlands. In particular, Wetland Replacement Area "A" (East Area) having a total area of about 7.9 acres will provide a high effectiveness for flood flow alteration, sediment and toxicant retention and nutrient removal/transformation.

An important aspect of the proposed stormwater management system for Relocated Route 57 will be to provide mitigation for impacts to floodplains. The proposed project will involve embankment fills at stream crossings within floodplains totally about 1.4 acres in area. This will result in the displacement of about 1.8 acre-feet of flood storage volume. These impacts will occur in the FIA (Flood Insurance Administration) delineated floodplain in Wetland No. 1, and in the calculated 100 year floodplains within Wetlands No. 2, 3, 9, 10 and 15.

Federal Executive Order 11988 and the MA Wetlands Protection Act require that lost flood storage be replaced by excavating a compensatory flood storage area of equivalent volume along the same reach of the water course. In addition, MA DEP Regulations require that the compensatory flood storage be equivalent at each increment of elevation up to and including the level of inundation of the 100 year storm.

The proposed 10.8 acres of wetland replication area adjacent to Wetland No. 1, 2, and 9; and the proposed replacement of the existing Schmaelzle Farm pond which eventually discharges into Wetland No. 10 will provide a substantial amount of the required compensatory flood storage for the project.

As noted previously under the Wetlands Section of this document, all impacted floodplain areas (including the proposed wetland replication areas) are tributary to the overall Still Brook watershed. However, it may be necessary to provide additional compensatory flood storage along some of the affected tributaries to Still Brook (e.g. Wetland No. 3 and 15) if it is deemed necessary to fully satisfy the State and/or Federal performance standards. The most stringent regulation is in the MA Wetland Protection Act which requires equivalent compensatory storage at each elevation up to and including the 100 year flood elevation. Similar to wetlands, careful consideration must be given to the location of any required additional compensatory flood storage areas in order to balance floodplain interests and agricultural interests since farmlands border each of the affected floodplains.

Detailed calculations to demonstrate both conveyance and flood storage for existing and proposed conditions will be prepared as part of the final design phase for the proposed project. The detailed calculations will identify the specific design requirements for providing the necessary compensatory flood storage areas and volumes. The location of any additional storage areas outside of the proposed wetland replication areas will be closely coordinated with all involved Federal and State agencies.

Summary

The conceptual stormwater management measures described above will mitigate all potential short and long-term impacts of the proposed Route 57 Relocation (Phase II) project so that the quality of receiving waters are protected. The series of BMP's to be incorporated into the proposed project, both during construction activities and as part of the final stormwater management system, will protect the function and values of the wetland areas within and beyond the project limits. These measures will also contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act.

Regular inspection and maintenance of the stormwater management system will ensure that the BMP's continue to function effectively to avoid and minimize water quality and wetland impacts. The final design of the stormwater management system will be consistent with the requirements of the Section 401 Water Quality Permit and the NPDES General Permit for construction activities.

G. Other Issues

This section of the Addendum provides responses to other issues raised in the comment letters received on the FSEIR.

Issue: Grade separation at South West Street (Alt. IVA) including study of adding ramps and limits of proposed reconstruction work along South West Street.

Response: As stated in the FSEIR, the US COE has selected Alternative IV(a) (Grade Separation at South West Street) as the Least Environmentally Damaging Practical Alternative (LEDPA) for the proposed project. The letter from the US COE stating this determination is attached in Appendix 2 of this document.

As part of their review comments on the DSEIR, the Town of Agawam had requested the addition of ramps (eastbound on-ramp and westbound off-ramp) at South West Street. A summary of the findings of the traffic analysis for adding ramps at South West Street was presented in the FSEIR on Pages 3 and 4. The discussion was based on the detailed traffic study prepared in February, 1994 by the MHD which is attached in Appendix 4 of this document.

The total length of the proposed reconstruction of South West Street is about 1,800 feet (about 900 feet north and south from the proposed Route 57 Relocation alignment). The proposed limits of work were shown on Figure No. 4 in the FSEIR, and are indicated on Figure No. 5 in this Addendum.

The proposed typical section for reconstructed South West Street will consist of one 12 foot travel lane and one 8 foot shoulder in each direction (total curb to curb width of 40 feet). A 6' sidewalk will be provided along each side of the reconstructed street. At each end of the reconstruction, the roadway width will taper from the proposed 40 foot width to the existing 22-24 foot width.

It should be noted that if adding ramps at South West Street was found to be justified, the presently proposed 8 foot shoulder would require a widening to a 14 foot auxiliary lane to accommodate the ramp turning movements.

Issue: Proposed typical roadway section for Relocated Route 57 including the questions of two lanes vs. four lanes; transition to existing roadway width at west end of project; induced growth/land use/loss of rural character; and wetland fill areas.

Response: Route 57 has been classified by the MHD as an Urban Principal Arterial in Agawam since the 1950's. With full control of access, the proposed typical section should conform to expressway/freeway standards which call for a divided roadway with a minimum of 2 travel lanes in each direction.

The FSEIR (Pages 13 thru 17 and Technical Appendix 2), provided a detailed discussion of the traffic analyses supporting the proposed transition from a new divided highway to the existing two lane undivided roadway at the west end of the project.

The proposed typical section for Relocated Route 57 and its transition to meet the existing roadway width in Southwick (as presented in the FSEIR) will not result in any changes to induced growth, land use or loss of rural character from that reported in the DSEIR.

As evidenced by the June 9, 1993 letter from Ms. Deborah S. Dachos, Director of the Office of Planning and Community Development which was contained in the FSEIR, the proposed Route 57 Relocation to the Southwick Town Line has been a goal of the Town of Agawam for over twenty years. The proposed project has been part of the Town's Master Plan for projected growth and land use since the mid 1970's. In her letter, Ms. Dachos also states that the selected Alterative IV(a) for the proposed project (Grade Separation at South West Street) will help to control growth in the soutwestern portion of Feeding Hills, particularly along South West Street.

West of South West Street, the proposed project will result in the filling of five (5) existing wetland areas (Area Nos. 7, 9, 12, 13 and 14). A comparison of the revised wetland fill areas as presented in the DSEIR and as calculated for the presently proposed preliminary designs is presented in Table No. 7 of this document.

For existing Wetland Area Nos. 9, 12, 13 and 14, the total wetland fill acreage is presently 1.26 acres versus the 0.92 acres reported in the DSEIR. The increase of 0.34 acres is related to the recalculation of the fill areas based on the more accurate 40 scale topographic plans now being used for design purposes.

In regards to Wetland Area No. 7, the FSEIR (pages 9 through 11) presented the findings of the study conducted to evaluate the environmental impacts and estimated construction costs of various design options for the proposed roadway crossing of this wetland. The recommended design option of using 1½:1 rock fill slopes with an animal passageway (rather than a bridge structure) results in a wetland fill area of about 0.6 acres. Using this design option also results in a construction cost savings of about $2.8 million. As stated in their letter of April 15, 1994, the US COE and the Federal Resource Agencies (US FWS & US EPA) have approved the use of the recommended design option. (See Appendix 2)

Notwithstanding the above noted increases in wetland fill areas, design refinements and other mitigating measures have been incorporated into the proposed design plans which result in an overall reduction in the wetland fill areas of about 0.4 acres from that presented in the DSEIR.

Issue: Proposed design for providing a grade separation at the intersection of Relocated Route 57 and Existing Route 57 (Southwick Street).

Response: The FSEIR (Pages 4 thru 8) presents a detailed discussion of the advantages/disadvantages (traffic service, effects on Wetland #7 and the Boglisch Tree Farm, and construction costs) of the at-grade intersection/bridge options as well as the traffic volumes and level of service summary for each of the traffic movements. Figure Nos. 1 and 2 in the FSEIR present the AM and PM peak hour traffic projections for 1993 and 2013 at the Relocated Route 57/Existing Route 57 intersection. The recommended design option for providing a grade separation at this intersection is depicted on Figure No. 3 in the FSEIR. The north arrows on Figure Nos. 1, 2 and 3 are similar, they each indicate that north is at the top of each Figure.

The traffic volume projections have been derived from the many comprehensive transportation planning studies conducted for the Route 57 Project since 1978. These studies have included area-wide traffic counts. land use projections, regional growth, traffic demand modeling, origin-destination surveys and park and ride/transit studies. The FSEIR (Pages 58 thru 61) presents a summary of the various studies and the latest regional transportation data used for the Phase II Project. It should also be noted that the traffic projections used for the Phase II Project are generally supported by these developed independently by the current Pioneer Valley Planning Commission (PVPC) travel demand model for the region.

As shown on Figure No. 3 in the FSEIR, a majority of the proposed Southwick Street "Loop" will follow the horizontal alignment of the existing Route 57 roadway. The proposed profile will be similar to that of the existing roadway thus requiring a minimum of earthwork cuts and fills.

The area between the southerly side of Relocated Route 57 and the north side of the Southwick Street "Loop" roadway contains four (4) residential dwellings:

Owner	Address
Sleeper	#316 Feeding Hills Rd., Southwick
Parisien	#662 Southwick St., Agawam
Bouchard	#650 Southwick St., Agawam
Freeman	#632 Southwick St., Agawam

For both the at-grade intersection and bridge options, the Parisien property will not be taken and the other three (3) properties will be taken. These takings are required due to the construction limits of the Relocated Route 57 roadway and are not dependent on the design option used for the intersection with existing Route 57.

Issue: Traffic impacts and analyses for the proposed Route 57 Relocation project.

Response: As stated previously, the FSEIR (Pages 58 thru 61) includes a summary of the numerous transportation planning studies conducted for the Route 57 Project. It is noted that one of these studies was the 1983 Route 57 Task Force Study which included a regional origin-destination survey for development of a traffic demand model for the entire area of the Phase I and II projects.

The traffic projections by this model have been updated in the DSEIR/FSEIR traffic analyses to reflect the latest base year traffic data (1992 counts), land use assumptions, and input from local and regional planning agencies. Again, it is noted that the DSEIR/FSEIR projections are generally supported by those developed independently by the current PVPC travel demand model for the region.

The Final Supplement Traffic and Wetlands Analysis for the Phase I Project addressed the concerns on motorists using the local streets in the Hendom Heights/Pheasant Hill neighborhoods as a short cut around the intersection of South Westfield Street and Existing Route 57 when the Phase I Project is opened.

For the Phase I project, it was agreed that the Agawam DPW will closely observe traffic operations within the neighborhoods after the project opens. If the Town finds that a substantial number of motorists use the neighborhood streets as a short cut, the Town will designate Hendom Drive one way EB. If this action is ineffective, then the Town will temporarily close Hendom Drive at South Westfield Street.

Whatever the outcome may be for the Phase I project, it is expected that the Phase II project will reduce short cuts on these neighborhood streets. Completion of the Phase II project will substantially reduce traffic volumes on South Westfield Street between Relocated and Existing Route 57, and at its intersection with existing Route 57. Furthermore, the Phase II project will allow motorists desiring to reach North and South West Street to remain on the new Route 57 highway and to exit the facility at Southwick Street near the Town Line to reach their destination.

As noted in the FSEIR, if substantial changes to projected traffic conditions are experienced in the project area after Phase II is opened, the MHD will re-evaluate the need for the ramps at South West Street.

Issue: Why wasn't the "Function and Value Assessment of Wetland Areas" Report included in the FSEIR?

Response: Information contained in the Draft "Function and Value Assessment of Wetland Areas" Report as submitted to the U.S. Corps of Engineers and the U.S. Fish & Wildlife Service was presented in both the DSEIR and FSEIR. In addition, these agencies are currently reviewing the recently completed Draft Wildlife Habitat Evaluation Report prepared for the Phase II project. Upon resolution of any comments by these agencies, both Reports will be completed and available for distribution.

Issue: Why was it deemed more important to take an additional three acres from the Boglisch Tree Farm to avoid any property takings from an un-built subdivision (Mac-Brook Subdivision)?

Response: Impacts to the Boglisch Tree Farm by the proposed Route 57 Phase II project are unavoidable. The proposed Relocated Route 57 alignment has been designed to minimize farmland impacts while at the same time avoiding any impacts to the approved Mac-Brook Subdivision. The construction for this Subdivision is currently underway.

As explained in more detail under the Farmlands section of this document, an access roadway from South West Street will be provided into the remaining Boglisch Tree Farm property north of Relocated Route 57. This design revision will eliminate the indirect losses to the Tree Farm.

Coordination and discussions with the MA Department of Food & Agriculture and the property owner are ongoing and will be continuing throughout the subsequent design phases in order to further mitigate impacts to Boglisch Tree Farm.

Issue: Access to the northerly portion of the Tuckahoe Turf Farm from local roads.

Response: As stated on Page 21 of the FSEIR, the Town of Agawam has a legal right of way access via Bunker Hill Road to the northerly portion of the former Tuckahoe Turf Farm. Bunker Hill Road runs north/south at the end of the Independence Road cul-de-sac. This existing right of way access is shown in the study report prepared for the Town in April, 1994 by the Conway School of Landscape Design which presents the conceptual design plans for the Tuckahoe Recreation Area.

Issue: Limits of proposed noise barrier at Memory Lane/Hendom Drive.

Response: As described on Pages 12 and 13 and in the Technical Appendix 1 of the FSEIR, the updated noise analysis for the project indicates that extension of the proposed noise barrier to the east of Station 106 + 00 is not necessary. The traffic noise contribution from road segments beyond the proposed barrier length will be negligible at receptor locations.

Issue: The FSEIR postpones providing specific information on issues such as construction impacts, wetland and wildlife assessments and archaeological impacts. It seems that the FSEIR was submitted prematurely.

Response: As stated in the FSEIR, the Phase II project is currently in the 25% stage of design development. During this present ongoing design phase, preliminary (graphical) designs are prepared for roadway alignments, intersection and interchange layouts, roadway typical sections, bridge layouts and type studies, preliminary right-of-way layouts, selection of wetland replacement areas and other such major design issues. Following agency review and approval of the 25% design documents, the project then proceeds into the 75% and 100% design stages. Agency reviews and approvals are also conducted during these subsequent design phases,

including the submittal of more detailed plans and data to apply for the necessary environmental permits and clearances to allow construction to commence.

Accordingly, the design plans, analyses and discussions presented in the FSEIR are based on the current stage of the preliminary (25%) design phase. Notwithstanding certain review comments received on the DSEIR and FSEIR, final design details and specifications to be used for the construction of the Phase II project cannot be presented at this time since the project has not yet reached the final design phase. Final design completion is presently scheduled to occur by mid-1996. On the other hand, preparation, submittal and MEPA approval of the FSEIR cannot be postponed until the final design details and specifications are prepared and approved by the reviewing agencies and the general public.

The DSEIR and FSEIR provided salient information on the issues of construction impacts, wetland and wildlife assessments and archaeological impacts. The following is a summary of the current status of these issues:

Archaeological Impacts

As presented in the DSEIR, intensive archaeological surveys (Phase I) and site examinations (Phase II) were performed by the University of Massachusetts (UMASS) on behalf of MHD/FHWA within the proposed right of way for Alternatives III/III(a) and IV/IV(a). The findings of these investigations indicated that there are no sites eligible for inclusion in the National Register of Historic Places within the proposed right of way for the selected Route 57 Relocation alignment [Alternative IV(a)]. In their letter of April 26, 1991, the MA Historical Commission concurred with the findings that no further archaeological work would be required within the proposed roadway right of way.

Intensive archaeological surveys (Phase I) were conducted by UMASS to address proposed wetland replication areas, subsequent modifications to these wetland replication areas, and minor alignment changes in the selected Alternative IV(a).

The surveys disclosed no potentially significant sites within these proposed impact areas. Reports describing the results of these surveys are presently being prepared by UMASS. Once these reports have been reviewed by MHD/FHWA, they will be forwarded to the MA Historical Commission for review.

Wetland and Wildlife Assessments

As stated previously, the Draft Reports for these two issues are currently being reviewed by the US COE and the US FWS. Upon resolution of any comments by these agencies, both Reports will be completed and available for distribution.

Construction Impacts

The potential construction impacts for the proposed project will be short-term in nature since they only are associated with the approximate two year construction period.

Construction of the project would cause a temporary increase in air pollution levels during the period of construction. The short-term effects on air quality would include: an increase in particulate matter and nitrogen oxide emissions due to the usage of heavy diesel construction machinery; an increase in the corridor emissions due to the decreased speeds; and an increase in particulate matter due to fugitive dust stirred up by the movement of construction equipment together with the exposure of soils.

As required by MA DEP regulations, dust will be controlled during construction as needed by application of water or other dust abatement measures to exposed soil areas.

Construction equipment will be operated, maintained and periodically inspected to minimize pollutant emissions. Dust covers (tarps) will be required on all trucks hauling earth borrow or aggregates to and from the construction site.

Increased noise levels will occur along the project area due to construction activities. Due to the variety of equipment, the undetermined placement of construction materials on the site, and the various phases of construction, it is difficult to quantitatively determine the overall noise levels which would occur at the nearest noise receptors.

The contractor will be required to utilize various noise control mitigating measures during construction such as having properly installed and maintained mufflers and other noise suppression devices on all equipment; locating equipment storage and staging areas away from residential property; and restricting construction activities to normal day time working hours. Where special problems are anticipated during final design, further mitigative measures will be specified in the construction specifications.

Blasting will occur in sections of the project to remove exposed ledge or bedrock. Controlled blasting through establishment of specific size, placement and timing parameters for the dynamite charges will be adopted to reduce impacts on adjacent areas. Compliance with the State Board of Fire Prevention regulations relative to the storage, handling and discharge of explosives would mitigate potential impacts.

During construction, soil erosion and sedimentation can be a major contributing factor to environmental pollution. In order to minimize the effect of sedimentation, scour, turbulence and washouts during construction operations, temporary measures and permanent controls will be provided. A more detailed discussion of the Best Management Practices (BMP's) to be incorporated into the design of the proposed project is presented under the Stormwater Management section of this document.

The potential construction impacts to existing drainage and utility structures associated with the proposed project will be typical to most major roadway construction projects adjacent to existing developed areas. Existing sanitary sewer and water mains along with gas, electric, storm drainage, telephone, and fiber optic lines could require relocation within the project area. In all cases, services would be maintained throughout any relocation activity with brief periods of minor inconveniences.

Disruption of present traffic movements and inconvenience to certain abutters will be a temporary impact during construction. Traffic control measures to be utilized during construction will include temporary detour roadways around the proposed bridge work at South Westfield and South West Streets. Phased construction will be used at the proposed Route 57/Existing Route 57 bridge in order to maintain existing traffic flows along Route 57 (Southwick Street). Access to adjoining properties will be provided at all times during construction. Also, the provision of emergency response services during construction will provided at all times.

As presented in the DSEIR, the proposed project will generate truck traffic due to the need to haul and dispose of surplus excavated materials. To mitigate any adverse impacts caused by this truck traffic, the construction contract specifications will include the following provisions:

- Prior to hauling to any waste disposal site, the contractor will be required to submit the location, route and schedule along with an erosion control program and all permits for review and approval for each disposal site.

- Haul routes will be specified with goal of selecting routes which minimize impacts to residential neighborhoods and other sensitive areas.

- If hauling and disposal to east of the project area is proposed, the construction specifications will require, to the maximum extent practicable, the use of the recently completed section of Route 57 (Phase I) to minimize impacts on existing Route 57 and other local roads.

APPENDIX 1

Review Comment Letters Received on the FSEIR

KENNETH J. ATHAS
DARLEEN C. ATHAS

JULY 17,1994

Ross B. Dindio
Mass Highway
10 Park Plaza
Boston, Ma 02116

Dear Mr. Hammer,

We are writing to you in reference to The Route 57 Phase Two Project. We live at 64 Memory Lane, Feeding Hills and have read the Final Assessment Supplemental Environmental Impact Report for Route 57 Relocation Project - Phase II. In this report we are pleased to find that Mass Highway has made a commitment to erect sound barriers along the Memory Lane/Hendom Drive community area. This addition to the project will allow for a much greater quality of life to these neighborhoods as compared to what would have been experienced without them.

As far as the type of construction to be done, we would like to personally say that we feel the earth and/or rock fill berm option would be the best alternative. Not only is it the most economical, but will also be the most eye appealing for this type of community.

We appreciate the time and effort that is being given to this matter and hope that Mass Highway will continue to give the people of this community the support they need when considering the impact of such a project.

Sincerely,
Kenneth J. Athas
Darleen C. Athas
64 Memory Lane
Feeding Hills, Ma. 01030

HENDOM MEADOW COMMUNITY ASSOCIATION
C/O MIAS
53 MEMORY LANE
FEEDING HILLS, MA 01030

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Re: Station 85-106
Route 57, Agawam-Southwick

Dear Mr. Dindio,

The Hendom Meadow Community Association thank all concerned for the consideration taken on our behalf and those of our whole neighborhood pertaining to the stretch of roadway known as Station 85-106 of the Relocated Route 57, Agawam-Southwick. We were all quite concerned last year at the possibility of this highway section being built within 100 feet of our property line without any noise protection provided. With so much area to work within behind our homes, we could not understand the necessity of this project - to be built so close to a prime neighborhood with above average property value such as the Hendom area enjoys. Coupled with the fact that noise barriers were not considered for this area due to an economic issue, we were extremely pleased to hear that a re-analysis of this option was being undertaken.

According to the Design Refinements described in the Final EOEA #915 Report dated June 1994, this proposed highway has been realigned and the median condensed to allow an additional 80 feet to provide further separation between the proposed project and our homes. Although it is not as much as we had hoped for, it is far more than was planned previously and we greatly appreciate every inch that can be found to separate our neighborhood with the future westbound lane of the re-located Route 57. If at all possible, we also look forward to any further amount of area that may be found as design goes into greater detail.

The Design Refinements also describe new investigation into providing a noise barrier of some form for our residential community. We wholeheartedly endorse noise barriers for our neighborhood. The projected decibel level change from the tranquility of what this area is familiar with, to the environment of the future is an estimated 20dBAs. This change is relative to comparing normal conversational speech at 5-10 feet to a bulldozer at 25 feet, which is a quadrupling of the noise level that this neighborhood is accustomed to. With these facts in mind, our quality of living will be so drastically affected that a noise barrier of some form is a must have situation. We are extremely appreciative of the investigation into various scheme designs for providing a noise barrier adjacent to Relocated Route 57 as it passes along the Memory Lane/Hendom Drive community.

The barrier style of choice for our neighborhood that is described in the Design Refinement section would be the earth or rock fill berm design option; provided the existing forested buffer area may remain intact. This design would not only be the most aesthetically pleasing, it would also be the most economical option available. If the area between the project and the forested buffer is insufficient to provide the footprint necessary for the required height of this type of barrier, we endorse a combination planted wall and berm barrier as described as "the optimal design scheme". If there is a possibility of achieving the height requirement by a smaller earthen berm with a planted wall constructed at the crest, this would certainly be the best of both options. The footprint would be decreased to reduce the wetlands impact and the forested buffer area could be saved from any encroachment.

This community was very pleased to see that the cost analysis of noise barrier necessary for our area is much closer to the MHD cost effectiveness index than was previously reported. This estimated cost is now only slightly above the guideline, and is calculated for the barrier to be a free-standing barrier wall only. Assuming that any/all of the wall can be replaced by earth or rock filled berm, which is our design option of choice, we are confident that MHD guidelines can be met and allow our community the noise protection we are seeking.

We will be looking forward to the continuing efforts of the more detailed design studies that will be conducted in order to achieve the MHD cost effectiveness for providing a noise barrier along Relocated Route 57. We appreciate and support the efforts being made on our behalf to minimize encroachment of the fill slopes into the forested buffer area between the new highway and the existing homes. We hope that as the design studies go into greater detailed analysis, if any more area can be found to separate our homes even further from this project, we would be greatly appreciative. This highway is necessary to this area for now and the future in order to accommodate through traffic away from local traffic in and around congested Feeding Hills Center. We would just like to make the impact to our own neighborhood as minimal as possible. Through the new realignment and promising new noise barrier investigations being conducted, we are confident that our voices are being heard and responded to. For that we thank you and look forward to more positive and promising news in the future as this highway slowly becomes reality.

Sincerely,

Mary H. Mias

Hendom Meadow Community Assoc.

MM/kc

cc: Mayor Chris Johnson

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Mary H Mias
David S Mias

MM/kc

53 Memory LA
Feeding Hills, Ma
01030-2423

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Almeida Senra

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

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Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Michele J Parrow

24 Memory Lane

Feeding Hills, MA 01030

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Fred J. Montesi

MM/kc

12 Hendom Drive
Feeding Hills, MA 01030-2

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Mr. & Mrs. John Dempsey, Jr.

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Massimo Ravelli

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Mr. and Mrs. Michael A. Green
103 HENDOM DRIVE
FEEDING HILLS, MA 01030

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Wayne Parker
41 Memory Ln
F. Hills, MA 01030

MM/kc

July 20, 1994

Mr. Ross B. Dindio
Chief Engineer, MHD
10 Park Plaza
Boston, MA 02116

Dear Mr. Dindio,

I (we) wholeheartedly endorse noise protection for station 85-106 of the Relocated Route 57 project, Agawam - Southwick. At all possible points of this area, earthen berms are favored over the wall design. If a free-standing barrier wall is necessary at any point, I (we) support the planted wall design so as to be as aesthetic as possible.

Please continue to explore the possibility of extending the buffer zone of this section of highway and the adjacent residential community. Thank you very much for your consideration in this matter.

Sincerely,

Angela Ponlos
Maria Ponlos +
Thomas Ponlos

MM/kc

TIMOTHY W. BRENNAN
EXECUTIVE DIRECTOR

PIONEER VALLEY PLANNING COMMISSION
26 CENTRAL STREET, WEST SPRINGFIELD, MASSACHUSETTS 01089 (413)781-6045
FAX: (413) 732-2593

July 20, 1994

Ms. Trudy Coxe, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street 20th Floor
Boston, MA 02202

Attention: MEPA Unit

Reference: Review Comments on the Final Supplemental Environmental Impact Report for the Proposed Route 57 Relocation Project, Phase II, in Agawam and Southwick, MA EOEA # 915

Dear Secretary Coxe:

The Pioneer Valley Planning Commission (PVPC) has the following review comments on the Final Supplemental Environmental Impact Report (FSEIR) for the above cited project. The proposed project consists of the reconstruction of Route 57 within the communities of Agawam and Southwick. The FSEIR discusses design refinements made to an earlier proposal in order to address changes to the existing site conditions since the publication of the Draft Supplemental Environmental Impact Report.

First, we would like to acknowledge for the record that the transportation-related comments which the PVPC previously filed relative to the Draft Supplemental EIR were all satisfactory addressed in the subject FSEIR document. We are grateful for the attention our earlier comments and suggestions received.

In the discussion that accompanies the finding that the South West Street ramps are not justified, the FSEIR indicates that "...if substantial changes in projected future traffic conditions are experienced...the Massachusetts Highway Department will re-evaluate the need for these ramps." Does this mean that the Commonwealth intends to monitor traffic volumes and patterns? If so, we'd recommend that this monitoring plan also be circulated for review.

Moreover, the PVPC, as this Region's designated Regional Planning Agency, respectfully requests that the Commission be included as a formal recipient and reviewer of these monitoring reports. If traffic monitoring is not planned, the PVPC suggests that the State pursue this option and develop a plan that requires monitoring on a regular basis.

Thank you for the opportunity to offer our comments on this proposed transportation development project.

Sincerely,

Timothy W. Brennan
Executive Director

cc: E. Shibley, PVPC Commissioner Agawam
F. Lawlor, PVPC Alternate Agawam
N. Caron, PVPC Commissioner Southwick
L. Mason, PVPC Alternate Southwick
D. Hammer, FHWA
T. Hession, MHD

93-11-5.doc/MEPA Comment Disk

Copy To: Mr. Ross B. Dindio, Chief Engineer
Massachusetts Highway Department
Transportation Building
10 Park Plaza
Boston MA 02116-3973

July 20, 1994

Trudy Coxe, Secretary
Executive Office of Environmental Affairs
20th Floor
100 Cambridge Street
Boston MA 02202

Express Mail No. EG499181545US

Attention: Jollene Dubner
MEPA Unit

RE: EOEA 0915 FSEIR Rte. 57 Relocation Project-Agawam/Southwick

The Final Supplemental Environmental Impact Report (FSEIR) is severely deficient in providing the scope of information mandated in the Certificate of the Secretary of Environmental Affairs on the Draft Supplemental Environmental Impact Report (DSEIR) issued on July 1, 1993. It does not provide "The highest level of analysis and scrutiny...to ensure that the impacts are fully identified [and] understood" for such issues as induced growth, land use, effect on neighborhoods, induced traffic and wetlands.

To complicate the matter, there have been many substantial changes in the design and cross section of the highway between South West Street and the Southwick town line since the issuance of the DSEIR a year ago. These changes include a significant widening of the roadway by adding lanes and a median strip, a dramatic design change for the intersection of relocated Rte. 57 and existing Rte. 57, and the elimination of the bridge at Wetland No. 7, which was a major component of Alternative IVA, now deemed to be the preferred alternative. These changes have been made without sufficient information in the FSEIR to properly identify and analyze the associated impacts.

In light of these major changes and the fact that the Phase II project area is the most environmentaly sensitive and has the most impact on neighborhoods, we believe that a full Environmental Impact Statement is warranted. The Finding of No Significant Impact (FONSI) by FHWA ignores the effect of the highway on the natural environment and defies common sense, the experience of living in the project area (now and compared to what it will be after Phase II), the extent and quality of natural resources and wildlife habitat in the project area, and the historical impact of other such MHD "bypass" highways built on farmland and through wetlands. The finding is inconsistent with the need for a variance from the state Department of Environmental Protection, and a full Environmental Impact Statement should be required.

We offer the following comments in support of our request for a full EIS:

Grade Separation at South West Street (Alternative IV A)

Alternative IVA has been chosen as the preferred alternative and will be built without the ramps requested by the town. The FSEIR provides no discussion about the traffic implications of the "ramps vs. no ramps" choice on local roadways and neighborhoods nor does it provide any discussion about the choice in relation to the potential for preserving or destroying the rural character of South West Street. Since we live in the neighborhood most adversely affected by this design choice, we are vitally interested in a thorough discussion about the balancing of interests. We would support having no access at South West Street if some meaningful guidelines and commitments were provided by town and state officials to maintain the rural character there, but we are skeptical given the following circumstances:

1. South West Street will be reconstructed even though ramps to and from relocated Rte. 57 are not provided (FSEIR, p. 30). (Will urban design standards be used to reconstruct South West St.? Will South West St. be widened for its full length?)
2. The town has proposed building a school and athletic field on land bordered by South West St. and relocated Rte. 57, even though town-owned land off South Westfield St. and Pine St. has much better transportation access from re-located Rte. 57 and reconstructed South Westfield St.
3. MHD has added lanes, a median strip, and increased shoulder width to relocated Rte. 57 west of South West St., significantly altering its former rural highway design at this location.

Two Lanes vs. Four Lanes

The discussion as to whether a two-lane highway would be sufficient west of South Westfield St. has apparently been rendered moot with the sudden, emphatic pronouncement that "Rte. 57 is classified by the MHD as an Urban Principle (sic) Arterial" (FSEIR, p. I7) and will now be a four-lane divided highway west of South West St. instead of a two-lane undivided highway. Since its conception, the highway extension in this locale has been described as an undivided rural highway with one travel lane in each direction and a westbound truck-climbing lane. The new configuration represents a major project change, but there is virtually no analysis of what the elimination of the former rural highway design means to Agawam and Southwick in terms of induced growth, land use, and loss of rural character. The discussion (FSEIR, pp. 14-17) indicates that a four-lane highway will be extended through to Southwick, something which Southwick residents and town officials overwhelmingly rejected years ago. There is very little supporting evidence or evaluation regarding the necessity of these design changes. There is no evaluation of

the percentage of traffic that would continue to use existing Rte 57 to and from Southwick. MHD is shirking its duty by forcing this configuration onto Southwick. The problems caused in Agawam/Feeding Hills by poor highway design and poor decision making on the part of MHD in the l950's and 60's are still being perpetuated today.

Intersection of Relocated Rte 57/Existing Rte 57

The switch from an at-grade intersection to a grade separation is a dramatic design change. We tried using Figure Nos. I, 2 and 3 to understand the origin and destination of traffic from existing Rte. 57 using the proposed loop to access re-located Rte. 57 eastbound. (The north-south direction indicators on Figure Nos. I and 2 do not seem to agree wth the one on Fig. No. 3). It seems to us that few drivers would head west on existing Rte 57 to access re-located Rte. 57 eastbound. It also seems that few drivers would travel west to the Southwick line on re-located Rte 57 to head back east on existing Rte. 57, yet these traffic movements are offered as a major justification for the new design.

The FSEIR provides many presumed advantages of the grade separation and loop design but does not provide a thorough discussion of the disadvantages. There appear to be a number of structures in the loop (FSEIR Fig. No. 3). How many residential takings would it require? What is the existing terrain the loop would be built on and what would its profile be? Provision of a grade separation at this intersection sacrifices the bridge at Wetland No. 7, which was a key component of Alternative IVA, but the FSEIR has insufficient discussion of the disadvantages of this design change for proper evaluation of the trade-offs.

Traffic Impacts/Analysis

In the days when the Pioneer Valley Regional Planning Commission actively opposed the Rte. 57 highway extension, one of its major points was that a true origin-destination study had not been conducted. We believe that omission to still be the case today. Much of the justification for the highway extension was to get traffic to and from Southwick and the hill towns off of town streets without any real understanding of what level of in-town traffic movements were actually causing the traffic problems. Such developments as the new super Stop and Shop which opened on existing Rte57 in January, l994 will continue to exacerbate in-town traffic problems. Re-located Rte. 57 serves to divert traffic from the more developed parts of Agawam to the presently less developed re-located Rte. 57 area. A summary and update of origin-destination information, if it exists, would be valuable in the FSEIR to evaluate the effect of Alternative IVA without ramps, the need for four lanes through to Southwick, and the effectiveness of the loop design at the Southwick line.

The Hendom Heights/Pheasant Hills neighborhoods are the most adversely

affected by having no ramps at South West St.. A traffic analysis of existing traffic volumes and movements in these neighborhoods would be helpful as well as projections for traffic drawn to the neighborhood with no ramps at South West St.. A plan should be developed to evaluate the increases and deal with them if they are significant. Implications for induced development and traffic growth have not been provided in the FSEIR; land use scenarios requested by EOEA have not been provided.

Wetlands

The FSEIR (p. 47) states that a more detailed "Function and Value Assessment of Wetland Areas Report" has been submitted to the USCOE for review. Why wasn't that information included in the FSEIR? MHD relies heavily on wetlands replication to compensate for the many natural wetlands bi-sected and filled by the highway relocation. Reading pages 48-5l of the FSEIR, it appears that these replicated wetlands will have low natural resource/habitat value. In an abrupt change, MHD is now proposing to fill wetland No 7 instead of bridging but provides no discussion of negative impacts. A more complete discussion is needed on the wetland implications of converting the highway corridor from a two-lane undivided to a four-lane divided roadway west of South West St.

Farmland

Presently in Feeding Hills, there are five farmstands with fresh local produce, several others that operate pick-your-own farms for seasonal fruits and vegetables, several livestock farms, and several tree farms. With a general acknowledgment of the fragility of most family farm operations and a supposed commitment to farmland preservation on both the state and federal level, why was it deemed more important to take an additional three acres from the Boglisch tree farm to avoid any property takings from an unbuilt subdivision?

TheFSEIR (p. 2) states that there is presently access to the Tuckahoe Turf Farm from Bunker Hill Road, thus reducing farmland losses by 3l acres. It should be noted that "Bunker Hill Road" is not an actual street, but , strangely, exists only as a street sign perpendicular to a residential cul-de-sac. Also, those 3l acres are the proposed locale for a town school and athletic field.

Miscellaneous

The FSEIR indicates that MHD is more amenable to the provision of sound barriers for Memory Lane and parts of Hendom Drive, for which we are grateful. Further discussion about why noise barriers are not provided for the easterly portion of Hendom Dr. would be helpful. For homes close to the highway with no noise barriers,

we would ask for consideration of treed buffers.

The FSEIR postpones providing the information requested by EOEA on construction impacts, wetland and wildlife assessment, and archaeological impacts and does not provide specific localized traffic impacts or land use scenarios. It seems that the FSEIR was submitted prematurely, the result being that potential impacts cannot be properly evaluated and will become apparent only in piecemeal fashion.

Conclusion

In general, it appears that the days of new "bypass" highway construction are over. It is regrettable that a highway project as destructive as re-located Rte. 57 will stand as a testament to the latter day works of MHD. Re-located Rte. 57 also stands as a testament to the power of political pressure and lobbying. Often it appeared to us that state and local officials lobbied for the highway without knowing, or seemingly wanting to know, much about the actual design or impacts of the proposed extension.

Agawam town officials frequently cite the need for expeditious completion of Phase II. Living in the project area, it seems to us that equal or greater emphasis should be placed on a careful evaluation of the pros and cons of various design choices and the implications of those choices. The present FSEIR does not do enough toward that end, especially in light of the extent of changes proposed west of South West St. A full Environmental Impact Statement is needed for this major highway construction project.

J. Craig White Muriel M. White

J. Craig White Muriel M. White

70 Elmar Drive
Feeding Hills, MA 01030

Copy:

Donald E. Hammer
Division Administrator, FHWA
Transportration Systems Center, 10th Floor
55 Broadway
Cambridge MA 02142

Ross B. Dindio, Chief Engineer
Massachusetts Highway Department
Transportation Building
10 Park Plaza
Boston MA 02116-3973

The Commonwealth of Massachusetts

Department of Food and Agriculture

Lancaster Regional Field Office

142 Old Common Road

Lancaster, Massachusetts 01523

Bureau of Land Use
(508) 792-7711
(508) 365-5068

MEMORANDUM

To: Trudy Coxe, Secretary
Executive Office of Environmental Affairs

Attn: MEPA Unit Jollene Dubner

From: Marcia Starkey

Re: EOEA #915 Final Supplemental Environmental Impact Report Route 57 Relocation Project Phase II Agawam/Southwick

Date: 20 July 1994

The Department has reviewed the Final SFEIR for the proposed relocation of 2.2 miles of Route 57 from South Westfield Street in Agawam to existing Route 57 at Provin Mountain in Southwick. As a state project supported by state and federal funds, the provisions of Executive Order 193 apply to all project impacts to agricultural resources. On-going discussions with the Massachusetts Highway Department have sought to avoid, minimize or mitigate those impacts, in that order of priority. There are no apparent impacts to farmland in the Southwick portion of the project area.

As directed by the Secretary's Certificate on the Supplemental Draft EIR, the Department provided the proponent with the Department's draft Criteria of Agricultural Value as well as a summary of the resource and functional impacts to each of the three farms affected by the project. These documents are attached to this comment letter. Federal review under the Farmland Protection Policy Act, also required by the Certificate, must be initiated by the sponsoring federal agency. No record of this review can be located.

MAJOR AGRICULTURAL IMPACTS AND MITIGATION

The major impact to farmland, which remains substantive for both the Boglisch Nursery and the Schmaelzle Farm, is attributable to the width of the interchange at South

Westfield Street and the use of a 300 foot right-of-way. The project proponent has committed to reexamining this design in an effort to minimize the farmland affected and will either reduce the right-of-way in farmland areas or execute an agreement which would enable the farms to continue to use land in the right-of-way. Implementation of this commitment is key to the reduction of agricultural impacts without which the Department would request that a Notice of Project Change be given.

The proponent has also committed to full mitigation for farmland and infastructure unavoidably affected and discuss with farm owners methods to buffer crop and sales areas. Farm-specific impacts which should be part of right-of-way discussions are summarized below.

WETLANDS REPLICATION

The FSEIR states that the design of wetland replication areas will be based upon information gathered in spring, summer and fall of 1994. The tentative nature of the replication plan is a factor at all three farms where either wetland filling or replication areas have been proposed. The conclusion of environmental review minus this important information impedes the evaluation of agricultural impacts.

THE BOGLISCH NURSERY

Impacts to the Boglisch Nursery are increased through the realignment which avoids the MacBrook Subdivision to the north. The paper subdivision on this farm does not alter the current use of the land, and therefore the total affected farmland is 23 acres. The realignment will isolate three acres of crops and increase the depth of impact to the farm's most productive land. This increase may be offset by a reduced ROW or use agreement.

Reduced impacts include elimination of the wetland replication area at the farm and lowering of the highway elevation in the revised plan. The Department supports the latter alternative. Any changes in these aspects of the plan would require overall reevaluation of agricultural impacts.

The proposed new entrance to the nursery is not recommended for reasons of safety, logistics and possible legal impediments. The Department has reviewed other alternatives with the farm owners; none of these are possible. Based upon this information the proponent will work to allow the existing entrance area to accomodate the long haul trucks which pick up at the farm.

The project will convert the early seasonal cropland at this farm, and therefore it is of the greatest importance that all feasible steps be taken to minimize the converted area. The Department requests that prime soil in the construction zone be skimmed and placed in designated areas at the Boglisch Farm for continued use, subject to owner agreement.

TUCKAHOE TURF FARM/TOWN OF AGAWAM

The Department has made an offer to purchase an Agricultural Preservation Restriction (APR) on 197 acres of this farm south of the project route. An approved wetland mitigation plan is necessary to completion of an APR. The FSEIR proposes to coordinate the replication designs with the Town, the Department and other agencies to insure that the replication areas lie outside the APR land (p.20). Additionally, Figure 4 locates wetland replacement area D between the South West Street access and the proposed APR. A final use plan for this area is necessary prior to any agricultural plan for the balance of the parcel south of the highway.

The project will directly convert approximately 31 acres of farmland. This will be mitigated through the proponent's participation in the APR aquisition.

The proponent will also review the final stormwater management plans with APR Program staff.

SCHMAELZLE FARM

This is a small, diversified farm operated on a part-time (winter) and full-time (summer) basis and consists of forage land in rotated corn and hay, beef pasture, and woodlot. As such it is typical of many small farms which are important to Massachusetts' agricultural industry and open space preservation.

The project would directly affect 20 acres of the 50 acre farm parcel, including the major part of the forage cropland, the farm pond, pasture and farm woodlot along with its access road on the farm's north boundary.

The project layout shown in Figure 5 of the FSEIR does not reflect the reduced median width, but does show that impact to farmland is greatly increased by the interchange configuration.

The proponent has agreed to review this aspect of the design and to work toward a reduced right-of-way or agricultural use agreement. The highway presently stops east of wetland #15, leaving possible opportunity for reducing both wetland and farmland impacts at this interchange.

Right-of-way discussions with the farmer will include replacement of the farm pond, infastructure such as pasture fencing, retention of any wood cut from the farm woodlot and buffer considerations dependent upon the final project design in this area. The retention of prime topsoil from the construction area may also help to replace lost cropland.

The need to reduce impacts to this farm cannot be overstated.

HIGHWAY RUNOFF AND WATER QUALITY

All farmers remain concerned about the highway drainage plan, possible siltation onto adjacent cropland and farm ponds, and groundwater quality. The Department requests that discussions with individual farm owners include a review and explanation of these plans.

c/ Thomas Hession, MHD
Donald E. Hammer, FHWA
Commissioner Healy
Asst. Commissioner Hubbard

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

CRITERIA OF AGRICULTURAL VALUE

CRITERIA:	RATING: HIGH	MED	LOW
FARM QUALITY:			
A: HIGHLY PRODUCTIVE SOILS class I class II class III-IV unique			
B: ADEQUACY OF ACREAGE & SOILS FOR USE TYPE			
C. SIGNIFICANCE TO STATE OR LOCAL AGRICULTURE			
VIABILITY:			
A: CAN STAND ALONE AS AN ECONOMIC UNIT			
B. VALUABLE ADDITION TO OTHER AREA FARMS			
C. PRODUCTIVE CONTINUED USE IS APPARENT			
D. ADEQUACY OF EXISTING IMPROVEMENTS			
E. RETAIL MARKETING OPERATION			
F. FARM LIES WITHIN OR NEAR EXISTING APR BLOCK			
G. LOCAL SUPPORT FOR CONTINUED AG USE			
ENVIRONMENTAL AND CULTURAL ATTRIBUTES:			
A. PROTECTION OF WATER RESOURCES			
B. SCENIC LANDSCAPE OR VIEWS			
C. OPEN SPACE VALUES TO AREA			
D. WILDLIFE HABITAT			
E. HISTORIC VALUE			
F. RARE SPECIES			
OTHER FACTORS:			
PRESERVATION RATING:			

1/3/94 draft MDS

THE BOGLISCH NURSERY

Direct Impacts
Crop Land: 23 acres of prime cropland directly affected.

Farm Infastructure:
Alternative IVa: farmhouse, extra lot, work barn and access road
Realignment: work barn and access road

Crops: nursery stock of varying ages on 23 acres

Significance: The 23 acres in the proposed highway route is the farm's best. It is early seasonal cropland with drier soils than to the south. Management flexibility and farm viability will be significantly affected unless this acreage can be replaced. Cropland allocations will require total adjustment. The farm road network will require reconfiguration. The farm, which supports three families and ca. 20 workers, has an established customer base in this area. These soils are prime and have produced food crops in the past.

Indirect Impacts
Surface & Groundwater Quality: Possible contaminant loading to soils and farm pond. Water Table: Any long term elevation of the water table could greatly reduce the utility of the adjacent farmland.

Land Value: Market depreciation of the property due to the presence of the roadway. This includes marketability for an existing "pick-your-own" Christmas tree business. This is a very well-managed farm sited in a quiet, scenic location. Land development is a traditional retirement or "as needed" income option for farmers.

Mitigation Details to be concluded with farm owners
Cropland: Mitigation of the lost cropland should enable replacement with farmland of equal capability under USDA/SCS standards. This should be located in the farm's market area.
Infastructure: Mitigation should enable the farm to replace all impacted areas and structures while continuing farm operations uninterrupted. Lost time should be mitigated.
Crops: Crop losses should be mitigated and include the cost of purchase, transplanting or planting and time-to-market of new crops.

TUCKAHOE TURF FARM

Direct Impacts

Cropland: 24 acres converted to ROW.
8.3 acres converted to wetland replication area.
Prime agricultural land north of the highway is also proposed for conversion by the Town of Agawam, the owner of the farm.

Infastructure: Under Alternative IVa the farm's entrance at South West Street should be unaffected.

Hydrology: Altered water supply to the farm pond and drainage impacts to the cropland south of the highway should be avoided.

Mitigation

Cropland: Loss of directly affected cropland may be mitigated through participation in purchase of an Agricultural Preservation Restriction on approximately 200 acres of Tuckahoe farmland south of the project route.

Hydrology: Construction and drainage plans in this project section should be reviewed with the Department's APR Program staff.

Massachusetts Audubon Society

South Great Road
Lincoln, Massachusetts 01773
(617) 259-9500

July 21, 1994

Trudy Coxe, Secretary
Executive Office of Environmental Affairs
100 Cambridge St., 20th Floor
Boston, MA 02202

Attention: MEPA Unit

Re: EOEA #915; FSEIR/EA for Phase II of the Proposed Relocation of Route 57, Agawam/Southwick

Dear Secretary Coxe:

On behalf of the Massachusetts Audubon Society, the following comments are submitted regarding the Final Supplemental Environmental Impact Report (FSEIR) for the above referenced project.

This project, involving relocation of Route 57 as a 4-line divided, limited access highway in Agawam was separated into two phases, with the first phase presently under construction while additional alternative analyses were conducted to seek an alignment for the second phase that would avoid impacts to the Leonard Pond wetland system. This FSEIR describes impacts and mitigation associated with the final preferred alternative (IVA) for the second phase.

Project Changes Since DSEIR

The FSEIR describes several refinements to the proposed design layout that have been made since the Draft SEIR was prepared over one year ago. In addition, there have been several independent proposals for development of farmlands adjoining the proposed highway alignment (residential subdivisions and town facilities). These projects in turn led to changes in the proposed mitigation for the highway project. The proposed location of some of the wetland replication areas has changed. The FSEIR also describes options for potential noise barriers. The proposed construction of earth berms and/or walls to shield residential areas from highway noise will result in additional wetland filling. The FSEIR does not include plans for a final design for these noise barriers, so the precise amount and location of wetland filling and replication associated with these barriers is not clear in this document. The Society feels that MEPA review of this project cannot be considered complete until the full scope and exact locations of all wetland alterations and replication areas are clearly identified.

The Certificate on the DSEIR called for the FSEIR to include: additional, detailed information on the interests affected by the proposed wetland alterations; analyses of land use scenarios and induced

growth related to the highway project, in terms of traffic demand; and consideration of the possibility of reducing wetland impacts by transitioning the roadway into a rural highway at a different location. The FSEIR is inadequate in its response to these issues. The Society is particularly concerned about the lack of any indepth analysis of the functions and interests provided by the affected wetlands. The discussion that is provided in this area is a relatively brief narrative that is not supported by field data. Replication areas are described only in terms of their general location. Information on groundwater levels, soils, and other key characteristics is needed to determine whether these areas will in fact be suitable and feasible for use as wetland replication sites.

The Society feels that detailed information on wetland interests, impacts, and replication areas is critical planning material that should be provided before the MEPA process can be considered complete. We request that you require the filing of supplemental information on wetlands, at a level of detail that will be adequate for purposes of review of the project under the variance provisions and to ensure that adequate and appropriate replication areas are available and feasible to construct.

Stormwater: The Society's previous comments on the DSEIR requested information on the stormwater system for the project, showing that Best Management Practices will be employed to minimize impacts from the increased roadway runoff generated by this new, expanded road alignment. The response to this comment in the FSEIR simply states that stormwater plans will be provided as part of the permitting process. This is not adequate, as the design of the stormwater system will have a strong effect on water quality and flow rates from the project to adjoining wetlands and waterways. A closed drain system with discharges piped to outlets in or near existing wetlands would not provide adequate protection for wetlands and water quality in this sensitive watershed. The Society requests that plans for the stormwater system be presented to MEPA in a supplemental document, and that mitigation measures such as detention basins and vegetated swales be incorporated into the project.

Conclusion: The Society requests that additional information on wetlands, stormwater, and mitigation design be required to be provided to MEPA before this file is considered complete.

Thank you for the opportunity to comment.

Sincerely,

E. Heidi Roddis

E. Heidi Roddis
Environmental Policy Specialist

cc: James Kerasiotes, Secretary, EOTC
Mark Primack, EOTC
Laurie Bedingfield, Commissioner, MHD
Thomas Hession, MHD
DEP Wetlands and Waterways, Western Regional Office
Marcia Starkey, Dept. of Food and Agriculture
Agawam Conservation Commission

MEMORANDUM

TO: EOEA, Secretary Coxe
Attention, MEPA Unit

FROM: David Howland, Acting Regional Director
Western Region, DEP

THRU: Robert J. McCollum, Section Chief
Wetlands Division/Western Region, DEP

DATE: July 22, 1994

SUBJECT: Final Supplemental Environmental Impact Report
EOEA #915
Route 57 Relocation Project, Phase II
Agawam/Southwick

The Department of Environmental Protection, Western Region, Division of Wetlands and Waterways has reviewed the FSEIR for Phase II of Route 57 relocation in Agawam and Southwick and offers the following comments. This review comes after meetings with MHD to provide MHD with procedural guidance and technical guidance to produce adequate conceptual plans for proposed mitigation. In a year's time, the information is still missing, however, this office will continue to work with MHD toward the development of this information.

In its review of the initial DSEIR this office expressed concern for the lack of information regarding the establishment of wetland boundaries within the project layout. In its comments dated 6/23/93 regarding this matter, this office urged that procedures (Determination of Applicability) under 310 CMR 10.00 be followed in order to validate the boundaries that MHD depicted on their plans. This suggestion was reiterated in a meeting with MHD on 2/7/94. To date, that regulatory procedure has not been undertaken. Hence, the proponent's quantification of proposed impacts may change, and it follows that the proposed mitigation to meet performance standards for impacts to the wetland resource areas remains uncertain.

This office understands that following the issuance of the Certificate in July 1993, MHD responded to federal agencies' comments and regulatory requirements and selected Alternative IV(a) for relocation of the highway. In addition, the Town of Agawam has taken actions that have also required MHD to reconsider proposed activities along the proposed right-of-way that are regulated under the Wetlands Protection Act and Regulations. Proposed work in all wetland areas has changed and proposed location of replacement areas have also changed.

Information on file in this office indicates that substantive conceptual plans for the replacement wetland areas have yet to be developed. The DSEIR depicted existing and replacement wetland areas in "plan view" without qualification. As stated above, significant modifications to proposed work have occurred without the generation of significant site specific data to determine whether replacement

is feasible where proposed. For example, consider Area "A" which is proposed to encompass 7.2 acres of replacement wetlands, a majority of the project's proposed mitigation. Based on the review of the most recent submission, dated 7/15/94, the Department finds that:

*when groundwater data is transferred to plans it is estimated that there will be approximately six feet of standing water in the northern portion of the replacement area during the spring of the year;

*groundwater investigations in its southerly or easterly portions of the area have not been conducted to substantiate required wetland hydrology;

*there is no soils information to insure that the proposed wetland replacement area can be excavated as proposed, and;

*there are no conceptual grades depicted on the plans, rather, dotted lines are drawn across the landscape, indicating the area is "bordering", but only in the narrowest of interpretation of the word.

The Department is of the opinion that without a wetland boundary identified through the Determination of Applicability process, MHD cannot accurately project impacts as a result of the proposed relocation of the highway. In addition, without further conceptual work in the proposed wetland replacement areas, this office cannot be assured of successful mitigation based on the minimal field-generated information that has been submitted.

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

22 July 1994

NHESP File: 89-512

Trudy Coxe
Secretary
Executive Office of Environmental Affairs
20th Floor
100 Cambridge Street
Boston, MA 02202

RECEIVED
JUL 22 1994
MEPA

RE: Project Name: Route 57 Relocation - Phase II
Proponent: U.S. Department of Transportation
Massachusetts Highway Department
Location: Agawam/Southwick, Massachusetts
Document Reviewed: Final EA/ Final Supplemental EIR
EOEA File Number: 915

Dear Secretary Coxe,

The Natural Heritage and Endangered Species Program would like to offer the following comments regarding the Final Supplemental Environmental Impact Report for the relocation of Route 57.

The Natural Heritage originally commented to MEPA on this project in February of 1989 (letter from Jay Copeland to Jolene Dubner dated February 10, 1989). At that time we were concerned with several state-listed rare species occurring in the area of Leonard Pond and Provine Mountain. These species include the following:

Hemidactylium scutatum (Four-toed Salamander)
Ambystoma jeffersonianum (Jefferson's Salamander)
Terrapene carolina (Eastern Box Turtle)
Isotria medealoides (Small Whorled Pogonia)
and
Clemmys insculpta (Wood Turtle) (near wetland #10)

The new alignment, as proposed in the SFEIR, avoids the Leonard Pond area. Additionally, the Highway Department has agreed to U.S. Fish & Wildlife's request for a more in-depth wildlife assessment "within the project limits." Because of the number of state-listed rare species in the area we agree that a more

comprehensive wildlife survey and assessment is needed. We believe that it is important that a wildlife assessment also include wetland areas that may be beyond the project limits but will be affected by construction and future road runoff.

We appreciate the opportunity to comment on this project.

Sincerely,

Hanni Dinkeloo
Environmental Reviewer

Arthur P. Boglisch & Sons, Inc.

11 ROBERTS STREET WINDSOR LOCKS, CONNECTICUT 06096
PHONE (203) 623-1704

WHOLESALE NURSERY

Sec. of Environmental Affairs
100 Cambridge St. 20th floor
Boston, Mass. 02202

RECEIVED
JUL 26 1994
MEPA

Re: Proposed Rt. 57
EOEA #915

To Whom it may concern,

A.P. Boglisch & Sons Inc. have concerns with regards to the construction of the proposed Rt. 57 through the Boglisch property. Our concerns and requests are listed as follows:

Concerns:

1-Lack of information of the water run-off system so as to assure of the soil and water quality. This is to prevent the siltation and the pollution of Wetland # 7 ,the Boglisch irrigation pond. (which feeds into the Leonard pond and its surrounding area wetlands), and the tillable farming soil from highway pollutants. E.G. road salt, oils, antifreeze etc.

2-Farm land impact is greater than stated in Final SEIR dated June 1994, sec.1 page 2. The approximate six acres identified as "Boglisch Subdivision" is currently under cultivation.

3-Accessibility to the Boglisch farm land must be maintained during construction so as not to interrupt the farming operation.

4-We currently have three open accesses and the availability of a fourth access. The first access is off of Southwest St. and two off of Kozak Court. The availability of the fourth access is off the Southwick St. curve at the top of the mountain. The proposal shows the elimination of the three current accesses.

5-The plans propose to move the Southwest St. access from its current location to the south through a building lot to the south of 202 Southwest St.. This lot and 202 Southwest St. are currently owned by Dale and Sandy Boglisch and not by A.P. Boglisch & Sons Inc., which owns the "Boglisch Farm". It is our understanding ,from information provided by the Dept. of Food and Agriculture, that MHD cannot take private land on behalf of other private parties. This access would have to be negotiated between MHD, Boglisch & Sons, and Dale and Sandy Boglisch to be a viable option.

Requests:

1-Maintain the soil and water quality of the Boglisch Farm by the prevention of pollutants being carried in the highway run-off water.

2-Reduce proposed Right of Way by 100 feet on the southern side and move the centerline to the center of the remaining 200 foot ROW . so as to minimize farmland impact.

3-Maintain accessibility onto the farm at all times during the construction period for equipment and tractor-trailer trucks so as not to interfere with our farming operations.

4-A minimum of two viable accesses onto the Boglisch Farm. These would have to be located with one off of Southwest St. and second off of Southwick St. Loop.

5-The top soil to be removed from the ROW and to be moved and spread onto Boglisch property.

We thank you for your time and consideration to this matter. If you have any questions please feel free to call us @ 203-668-8718. Please respond to our concerns and requests in writing at your earliest convenience.

Thank You,

A.P. Boglisch & Sons Inc.

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202

WILLIAM F. WELD
GOVERNOR
RGEO PAUL CELLUCCI
LIEUTENANT GOVERNOR
TRUDY COXE
SECRETARY

Tel: (617) 727-9800
Fax: (617) 727-2754

September 22, 1994

Mr. Thomas Hession
Massachusetts Highway Department
10 Park Plaza
Boston, MA 02116

Re: Route 57 FEIR, EOEA # 915

Dear Mr. ~~Hession~~ Tom:

You have requested some guidance in preparing the revised Final Supplemental EIR for the above referenced project. This letter, in conjunction with the comments received on the previously submitted document, is intended to provide that guidance.

As you know, some of the comments on the previous SFEIR requested that the MHD provide exact locations of all wetland alteration and replication areas. Based on our discussions, I understand that the MHD is now in the process of reviewing the project with the local Conservation Commission. I agree that the indepth review of the impacts should come at the permit review stage; however, given the magnitude of the impacts associated with this project and the need for a Variance from the provisions of the Wetlands Protection Act Regulations, a higher level of analysis in the SFEIR is clearly warranted and has been previously requested by the Secretary of Environmental Affairs. In addition, it is clear that the interests of the Wetlands Protection Act may conflict with agricultural interests in certain areas of the project.

The information now being developed for the Conservation Commission Notice of Intent Process will probably be very valuable in responding to the comments of Massachusetts Audubon, DEP and the Department of Food and Agriculture. The next document should contain a summary of the most important information regarding the wetlands and drainage impacts of the project, reserving the detailed review for the permit process.

Massachusetts Audubon has previously requested that information on stormwater management be included in the Final Supplemental EIR. The previously submitted document contained only a cursory statement that the stormwater management plans

100% RECYCLED PAPER

will be provided as a part of the permitting process. The revised Final Supplemental should provide more information on the types of stormwater management practices that will be employed by MHD in this project. As noted above, highly developed plans are not necessary; however, reasonably developed concept plans are called for in this section.

The Department of Food and Agriculture has noted that the impact of stormwater runoff is of significant concern to the adjacent farming operations; therefore, a reasonably detailed discussion of this aspect of the project is very important and must be presented prior to MEPA compliance.

The SFEIR must present a more thoroughly developed farmlands/agricultural soils impact minimization and mitigation program. As we discussed at the August meeting, these lands should be viewed as resource areas, similar to the wetland resource areas. Any measure that the MHD can take to avoid, minimize or mitigate impacts to these resource areas will be welcome and should be detailed in the environmental documentation. The implementation of an Agricultural Preservation Restriction (APR), as suggested by the Department of Food and Agriculture in its comments on the previously submitted document, is one such way to achieve the goals articulated above.

The tentative nature of the proposed replication plan is of serious concern, in particular where such replication pits the wetlands interests against the agricultural interests. More thoughtful consideration of how to balance these interests should be demonstrated in the revised environmental document.

The MHD should work with the Department of Food and Agriculture on an agreement to store the valuable topsoil that is located in the proposed right-of-way of the project. This agreement should be reflected in the revised environmental document.

The Certificate on the SDEIR required a "detailed and indepth evaluation of the interests that are being affected by this project,over and above a simple quantifiation of the acreage of impact. These interests must be thoughtfully considered with respect to the requirements for overriding public interest demonstration." Such a discussion and consideration was lacking in the previously submitted document and must be included prior to the conclusion of the MEPA process. I previous suggested consultation with Bob Golledge of DEP, and hope that you have been able to meet with him.

The question of two lanes versus four lanes and the transition area was downplayed in the previously submitted document. The decision to provide a significantly increased cross-section for the entire project area should be discussed in greater detail, and plans showing this change should be included.

Finally, with respect to formatting the new document, I note that the format of the previous document lead to some confusion on the part of the reviewers. I recommend that the new document be formatted as a stand alone document that fully respond to this letter and the letters received on the previous document. It should contain copies of all comments on the previous document as well as a copy of this letter. I do not object to calling it an addendum to be reviewed in conjunction with the previously submitted document, and referring (to a limited degree) to that document, where appropriate.

Please feel free to contact me should you have any questions. I can be reached at 727-5830 x306.

Sincerely,

Jollene Dubner
MEPA Unit

JD/jd

P:THLET

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF FOOD AND AGRICULTURE
LANCASTER REGIONAL FIELD OFFICE
142 OLD COMMON ROAD, LANCASTER, MA 01523 (508) 792-7711 FAX (508) 365-2131

WILLIAM F. WELD
Governor

ARGEO PAUL CELLUCCI
Lt. Governor

TRUDY COXE
Secretary

JONATHAN L. HEALY
Commissioner

14 October 1994

Thomas Hession
Massachusetts Highway Department
10 Park Plaza
Boston, MA 02116

Dear Mr. Hession;

The Department has reviewed the preliminary farmland sections of the FSEIR Addendum for the relocation of Route 57 in Agawam. Our comments are as follows:

Wetland issues should be resolved in the document.

Boglisch Tree Farm
p.4 a typo on Sandra Boglisch

Tuckahoe Turf Farm
The document should include an alternative mitigation plan in the event that an APR is not concluded on this property. Should this occur, the Department requests that MHD protect other equivalent farmland acres.

Schmaelzle Farm
The document should ensure continued access to the farm woodlot.
If wood is cut in the woodlot for the ROW, the farmer requests that the wood be set aside for him to recover.

Page 6 Other Farmland Issues
Farm infastructure concerns should include farm roads and lanes.

Sincerely,

Marcia Starkey

Marcia Starkey

c/ Richard Hubbard, Asst. Commissioner

recycled paper

APPENDIX 2
RDA/US COE
Letter Approvals

P151 380 821
P151 380 820 D.E.P

TOWN OF SOUTHWICK
RECORDED
94 SEP -7 PM 12:36
TOWN CLERK

310 CMR 10.99

Form 2

DEP File No. _____ (To be provided by DEP)

City/Town Southwick

Applicant Massachusetts Highway Dept.

Date Request Filed _____

Commonwealth of Massachusetts

Determination of Applicability
Massachusetts Wetlands Protection Act, G.L. c. 131, §40

From Southwick Conservation Commission Issuing Authority

To Massachusetts Highway Dept. _____
(Name of Person making request) (Name of property owner)

Address _____ Address _____

This determination is issued and delivered as follows:

☐ by hand delivery to person making request on _____ (date)

☒ by certified mail, return receipt requested on 9/7/94 (date)

Pursuant to the authority of G.L. c.131, §40, the SCC has considered your request for a Determination of Applicability and its supporting documentation, and has made the following determination (check whichever is applicable):

Location: Street Address Route 57 Phase II

Lot Number: _____

This Determination is positive.

1. ☒ The area described below, which includes all/part of the area described in your request, is an Area Subject to Protection Under the Act. Therefore, any removing, filing, dredging or altering of that area requires the filing of a Notice of Intent.

2. ☒ The work described below, which includes all/part of the work described in your request, is within an Area Subject to Protection Under the Act and will remove, fill, dredge or alter that area. Therefore, said work requires the filing of a Notice of Intent.

3. ☐ The work described below, which includes all/part of the work described in your request, is within the Buffer Zone as defined in the regulations, and will alter an Area Subject to Protection Under the Act. Therefore, said work requires the filing of a Notice of Intent.

This Determination is negative:

1. ☐ The area described in your request is not an Area Subject to Protection Under the Act.

2. ☐ The work described in your request is within an Area Subject to Protection Under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.

3. ☐ The work described in your request is within the Buffer Zone, as defined in the regulations, but will not alter an Area Subject to Protection Under the Act. Therefore, said work does not require the filing of a Notice of Intent.

4. ☐ The area described in your request is Subject to Protection Under the Act, but since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:_____

Issued by Southwick Conservation Commission

Signature(s) Alice D. Longley Chair

Robert M Watkins

Linda D Grandfield

John J. Cashman

This Determination must be signed by a majority of the Conservation Commission.

On this 7th day of Sept 19 94, before me personally appeared_____, to me known to be the person described in, and who executed, the foregoing instrument, and acknowledged that he/she executed the same as his/her free act and deed.

Notary Public

10-27-2000
My Commission Expires

This Determination does not relieve the applicant from complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations. This Determination shall be valid for three years from the date of issuance.

The applicant, the owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superseding Determination of Applicability, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310 CMR 10.03(7) within ten days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

mail to The Commonwealth of Mass
Thomas Hession
10 Park Plaza, Room 4260 2-2A
Boston, MA 02116

TOWN OF AGAWAM

PROPERTY OWNERS OF IMPACTED WETLAND RESOURCE AREAS

WETLAND #7:

Boglisch, Arthur P. & Sons, Inc.
11 Roberts St.
Windsor Locks, CT 06096-2113

WETLAND #3:

Town of Agawam
36 Main St.
Agawam, MA 01001-1825

Gendron, Gerald W. & Maureen E.
165 South West St.
Feeding Hills, MA 01030-1052

Daponde, John C. Jr. & Mona L.
173 South West St.
Feeding Hills, MA 01030-1052

Scagliarini, William C. & Linda A.
187 South West St.
Feeding Hills, MA 01030-1052

WETLAND #2:

Town of Agawam
36 Main St.
Agawam, MA 01001-1825

WETLAND #1:

Town of Agawam
36 Main St.
Agawam, MA 01001-1825

Commonwealth of Massachusetts
Massachusetts Highway Department
10 Park Plaza
Boston, MA 02116

Chauvin, Robert W. Jr. & Karen J.
75 Memory Lane
Feeding Hills, MA 01030-2423

3. ☐ The work described below, which includes all/part of the work described in your request, is within the Buffer Zone as defined in the regulations, and will alter an Area Subject to Protection Under the Act. Therefore, said work requires the filing of a Notice of Intent.

This Determination is negative:

1. ☐ The area described in your request is not an Area Subject to Protection Under the Act.

2. ☐ The work described in your request is within an Area Subject to Protection Under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.

3. ☐ The work described in your request is within the Buffer Zone, as defined in the regulations, but will not alter an Area Subject to Protection Under the Act. Therefore, said work does not require the filing of a Notice of Intent.

4. ☐ The area described in your request is Subject to Protection Under the Act, but since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:_____

Issued by Agawam Conservation Commission

Signature(s) Helmuth Flathman, Henry Kozloski, Arthur LaFleur, Colette Potter, Robert Magovern, Mark Siegars

This Determination must be signed by a majority of the Conservation Commission.

On this 9th day of Sept. 19 94, before me personally appeared the above-named, to me known to be the person described in, and who executed, the foregoing instrument, and acknowledged that he/she executed the same as his/her free act and deed.

Notary Public

June 21, 1996
My Commission Expires

This Determination does not relieve the applicant from complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations. This Determination shall be valid for three years from the date of issuance.

The applicant, the owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superseding Determination of Applicability, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310 CMR 10.03(7) within ten days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

310 CMR 10.99

DEP File No. _____
(To be provided by DEP)

Form 2

City/Town Agawam
Applicant Mass. Highway

Commonwealth of Massachusetts

Date Request Filed August 8, 1994

Determination of Applicability
Massachusetts Wetlands Protection Act, G.L. c. 131, §40

From Agawam Conservation Commission
Issuing Authority

To Mass. Highway Dept. (Name of Person making request)

see attached list (Name of property owner)

Address Ten Park Plaza
Boston, MA 02116

Address _____

This determination is issued and delivered as follows:

☐ by hand delivery to person making request on _____ (date)

☒ by certified mail, return receipt requested on 9-10-94 (date)

Pursuant to the authority of G.L. c.131, §40, the Commission has considered your request for a Determination of Applicability and its supporting documentation, and has made the following determination (check whichever is applicable):

Location: Street Address Route 57 Relocation Phase II

Lot Number: _____

This Determination is positive.

1. ☒ The area described below, which includes all/part of the area described in your request, is an Area Subject to Protection Under the Act. Therefore, any removing, filing, dredging or altering of that area requires the filing of a Notice of Intent.

The Agawam Conservation Commission accepts the wetland delineation as shown on plans entitled "Massachusetts Highway Department, Route 57 Relocation (Phase II) - received by Commission on 8/8/94.

2. ☐ The work described below, which includes all/part of the work described in your request, is within an Area Subject to Protection Under the Act and will remove, fill, dredge or alter that area. Therefore, said work requires the filing of a Notice of Intent.

TOWN OF AGAWAM

PROPERTY OWNERS OF IMPACTED WETLAND RESOURCE AREAS

WETLAND #10:

Town of Agawam
36 Main St.
Agawam, MA 01001-1825

WETLAND #11:

Schmaelzle, M.R. Trs.
Linda May Paul John Karl
394 South Westfield St.
Feeding Hills, MA 01030-2715

WETLAND #15:

Commonwealth of Massachusetts
Massachusetts Highway Department
10 Park Plaza
Boston, MA 02116

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

February 4, 1994

Regulatory Division
CENED-OD-R-199010778

Mr. Gregory Prendergast
Deputy Chief Engineer
Project Development
Massachusetts Highway Department
Ten Park Plaza
Boston, Massachusetts 02116-3973

Dear Mr. Prendergast:

This is in reference to the recent correspondence, copy attached, dated January 31, 1994, regarding the relocation of Route 57. Please note for clarification that the Least Environmentally Damaging Practical Alternative is alternative IV (a).

If you have any questions, please contact Mr. Thomas C. Bruha of my staff at 617-647-8058.

Sincerely,

Karen Kirk Adams
Chief, Permits Branch
Regulatory Division

Copies Furnished:

U.S. EPA
U.S. F&WS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

January 31, 1994

Regulatory Division
CENED-OD-R-199010778

Mr. Gregory Prendergast
Deputy Chief Engineer
Project Development
Massachusetts Highway Department
Ten Park Plaza
Boston, Massachusetts 02116-3973

Dear Mr. Prendergast:

This letter refers to the relocation of Route 57, western phase, located in Agawam, Massachusetts. We have determined that alternative IV designated in the "REPORT, ENVIRONMENTAL ASSESSMENT DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT, EOEA NO. 915" dated "SEPTEMBER 1992" constitutes the Least Environmentally Damaging Practical Alternative (LEDPA).

The wetland delineation information provided in the "SUPPLEMENTAL DATA, WETLANDS ENVIRONMENTAL ASSESSMENT, DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT, EOEA NO. 915" dated "SEPTEMBER, 1992" is a reasonable representation of the Corps jurisdictional requirements as outlined in the "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL" dated "January 1987".

We are looking forward to continuing our work with your staff as we proceed through phase II of our Highway Methodology, including your effort to minimize fill in waters and wetlands associated with the final alignment. We anticipate early coordination with your staff and the Federal Resource agencies in the preparation of an acceptable minimization plan and in the development of a workable mitigation plan to replace aquatic functions and values adversely impacted. We anticipate that upon completion of this effort we will be in a position to make a permit decision on your application.

If you have any questions, please contact Mr. Thomas C. Bruha of my staff at 617-647-8058.

Sincerely

William F. Lawless

William F. Lawless, P. E.
Chief, Regulatory Division
Operations Directorate

Copies Furnished

Mr. Ed Reiner
U. S. EPA, Region I
JKF Federal Building
Boston, Mass. 02203-2211

Mr. William Neidermyer
U.S. Fish & Wildlife Service
400 Ralph Pill Marketplace
Concord, NH. 03301-4901

Frank Smigelski
Cathy Pedevillano

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

April 15, 1994

Regulatory Division
CENED-OD-R-199010778

Mr. Gregory Prendergast
Deputy Chief Engineer
Project Development
Massachusetts Highway Department
Ten Park Plaza
Boston, Massachusetts 02116-3973

Dead Mr. Prendergast:

This letter refers to the western phase of the relocation of Route 57 located in Agawam, Massachusetts. We have reviewed and coordinated with the Federal resource agencies the reports that you have provided titled "STUDY REPORT RELOC. ROUTE 57/EXIST ROUTE 57 INTERSECTION AND RELOC. ROUTE 57 CROSSING AT WETLAND NO.7" dated "MARCH 9, 1994" and the "FINAL ENVIRONMENTAL ASSESSMENT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT EOEA NO. 915 ROUTE 57 RELOCATION PROJECT PHASE II AGAWAM/SOUThWICK, MASSACHUSETTS" dated "MARCH 17, 1994".

We had determined that alternative IVa is the Least Environmentally Damaging Practical Alternative (LEDPA). After further review we have determined that the 18′ diameter animal passageway, instead of the more costly bridge, at wetland no. 7 is acceptable to us and the Federal Resource Agencies.

We anticipate continued coordination with your office and the Federal resource agencies during phase II of our Highway Methodology, in the design of the mitigation sites to replace those functions and values adversely impacted. The report that you will be preparing, on these functions and values lost, will be used in the design of these mitigation sites.

If you have any questions, please contact Mr. Thomas C. Bruha of my staff at 617-647-8058.

Sincerely

William F. Lawless, P. E.
Chief, Regulatory Division
Operations Directorate

cc.

Federal Agencies
EPA
USF&WS

Frank Smigelski
Cathy Pedvillano

APPENDIX 3
Boring Logs

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-100 OW
LINE AND STATION: 18+44
OFFSET: 59' LT
GROUND ELEVATION: 321.1'

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	4	5	10				
		10					Dry, medium dense, brown COARSE to FINE	
2	2-4	12	10	12			SAND, trace inorganic silt and fine gravel	
		20						
3	4-6	15	18	34			dense 4 to 6'	5
		26						
4	6-8	27	29	46			very dense below 6'	
		51					8'	
5	8-10	27	6	13				
		34					Wet, medium dense, brown COARSE to FINE	10
6	10-12	17	23	22			SAND, trace inorganic silt and fine gravel	
		26					very dense below 12'	
7	12-14	15	25	31				
		67						
8	14-16	29	31	32				15
		42						
9	16-18	25	36	38				
		42						
10	18-20	43	45	56				
		68						20
11	20-22	40	27	24				
		29					22'	
							Bottom of boring 22 ft.	25
								30
								35

Well set with bottom at 16 ft.
Screen from 16 to 6'
Protector 2' above ground

CHANGED LOCATION: Boring moved from
18+20, 70' LT to 18+44, 59' LT
to avoid surface contamination.

WATER LEVEL: 8 ft 4/19/94 12:00 am
BORING STARTED: 4/19/94 11:00 am
BORING COMPLETED: 4/19/94 3:00 pm
TOTAL HOURS: 4.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. Hollow Stem Augers
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-101 OW
LINE AND STATION: 18+48
OFFSET: 154' RT
GROUND ELEVATION: 317.4'

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	9	10				
		8					Dry, medium dense, brown COARSE to FINE	
2	2-4	8	8	7			SAND, trace inorganic silt and fine gravel	
		8						
3	5-7	61	26	52			very dense below 5'	5
		57						
4	7-9	20	21	21				
		24					8'	
5	9-11	19	14	25				
		52					Wet, dense, brown COARSE to FINE	10
6	11-13	16	18	20			SAND, trace inorganic silt and fine gravel	
		22						
7	13-15	17	27	31			very dense 13 to 15'	
		34						
8	15-17	39	18	20			dense below 15'	15
		37						
							17'	
							Bottom of boring 17 ft.	20
								25
								30
								35

Well set with bottom at 16'
Screen 16 to 6'
Protector 2' above ground

CHANGED LOCATION: Boring moved from 18+50, 150' RT to 18+48, 154' RT to avoid wet area.

WATER LEVEL: 8 ft 4/20/94 4:30 pm
BORING STARTED: 4/20/94 3:30 pm
BORING COMPLETED: 4/20/94 5:00 pm
TOTAL HOURS: 2.5
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. Hollow Stem Augers
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-106 OW
LINE AND STATION: 39+46
OFFSET: 2' RT
GROUND ELEVATION: 226.9

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown FINE SAND	
2	2-4	4	4	7			and INORGANIC SILT	
		7					4' medium dense below 2'	
3	4-6	7	7	7				5
		7					Wet to moist, medium dense, brown	
4	6-8	6	7	8			FINE SAND and INORGANIC SILT	
		8						
5	8-10	6	7	9				
		10					loose 10-12'	10
6	10-12	1	3	4				
		5					medium dense below 12'	
7	12-14	6	6	7				
		7						
8	14-16	6	5	8				15
		11						
							20'	20
9	20-22	*	1	1				
		2					Moist, soft, gray CLAY and	
							INORGANIC SILT	
							stiff at 25'	25
10	25-27	5	6	3				
		2						
							soft below 30'	30
11	30-32	1	2	2				
		4						
							35'	35
12	35-37	40	18	12			Wet, dense, brown FINE SAND,	
		37					37' trace inorganic silt and fine gravel	
							Bottom of boring 37 ft.	

Well set with bottom at 13'.
Screen 13 to 3'. Protector 2' above ground.

CHANGED LOCATION: Boring moved from 39+60, CL to 39+46, 2' RT to allow access.

WATER LEVEL: 4 Ft 4/21/94 8:00 am
BORING STARTED: 4/21/94 7:30 am
BORING COMPLETED: 4/21/94 12:00 pm
TOTAL HOURS: 4.5
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split-spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. DEPTH: 10 Ft
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

* Weight of the Rods.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-112 OW
LINE AND STATION: 73+00
OFFSET: 300' RT
GROUND ELEVATION: 214.3

Pilot Subsurface Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown FINE SAND	
2	2-4	1	1	2			and INORGANIC SILT	
		3					medium dense below 4'	
3	4-6	4	6	7				5
		8						
4	6-8	6	6	7				
		7						
5	8-10	1	11	13				
		13					10'	10
6	10-12	5	6	6				
		7					Moist, stiff, gray CLAY	
7	12-14	6	6	7				
		8						
8	14-16	2	3	5				15
		6						
9	16-18	5	6	7				
		9						
10	18-20	4	4	4				
		4						20
11	20-22	2	4	5				
		6						
12	22-24	4	7	8				
		9					very stiff 24-26'	
13	24-26	9	12	13				25
		16					hard below 26'	
14	26-28	13	19	22				
		24					26'	
15	28-30	39	75	83			Moist, very dense, red COARSE to FINE	
		120					30.2' SAND and INORGANIC SILT, trace	30
16	30-30.2	120	FOR 2"				fine gravel	
							Bottom of boring 30.2' ft.	
								35

Well set with bottom at 18'
Screen 18 to 8'.
Protector 2' above ground.

WATER LEVEL:
BORING STARTED: 4/19/94 7:30 am
BORING COMPLETED: 4/19/94 3:30 pm
TOTAL HOURS: 6.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split-spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION: Agawam/Southwick
Route 57 Relocation
Pilot Subsuface
Exploration Program

BORING REPORT

HOLE NO: B-113 OW
LINE AND STATION: 74+50
OFFSET: 75' LT
GROUND ELEVATION: 221.5

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		2					Dry, very loose, brown FINE SAND	
2	2-4	2	2	3			and INORGANIC SILT	
		4					loose 2-4'	
3	4-6	8	9	10			medium dense below 4'	5
		10						
4	6-8	9	11	13				
		4						
5	8-10	11	14	14				
		15					10'	10
6	10-12	8	8	8				
		8					Moist, very stiff, dark brown INORGANIC	
7	12-14	12	15	15			SILT and FINE SAND	
		15					hard below 14'-20'	
8	14-16	15	19	22				15
		21						
9	16-18	17	16	15				
		12						
10	18-20	13	20	11				
		12						20
11	20-22	12	12	13			very stiff below 20'	
		13						
12	22-24	5	8	7				
		8					24'	
13	24-26	7	7	8				25
		8					Moist, stiff, gray INORGANIC SILT,	
14	26-28	5	5	5			trace fine sand	
		6						
15	28-30	6	7	9			very stiff 28'-30'	
		10						30
16	30-32	3	4	5			stiff 30'-34'	
		5						
17	32-34	4	5	6				
		6						
18	34-36	*	3	3				35
		4					medium stiff 36 to 42'	
19	36-38	1	3	4				
		4						
20	38-40	1	1	4				
		5						40
21	40-42	3	4	4				
		5						
22	42-44	4	6	8			stiff 42'-50'	
		9						45
23	50-52	Weight of rods					very soft 50 to 60'	50
24	55-57	1	1	1				55
		2						
25	60-62	1	3	4			medium stiff below 60'	60
		4						
26	65-65.4	120	for 5"				65'	65
							65.4 Moist, very dense, brown COARSE to FINE SAND and MEDIUM GRAVEL	
							Bottom of Boring 65.4 Ft.	70
							NOTE: Boring started 4/15/94 and drilled to 44' depth between 7:00 am and 2:00 pm, 7 hr. with hollow stem augers.	
							Completion delayed for decision on drilling furthur due to deep silt layer. Boring completed on 4/21/94 1:00 to 3:00 pm, 2hr. with rotary drilling.	75

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-114 OW
LINE AND STATION: 77+00
OFFSET: 250' RT
GROUND ELEVATION: 214.3

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown COARSE to FINE	
2	2-4	4	7	6			SAND, some inorganic silt, trace clay	
		6					medium dense below 2'	
3	4-6	4	5	5				5
		6						
4	6-8	5	5	7				
		8						
5	8-10	8	8	9				
		10						10
6	10-12	4	8	6				
		5					12'	
7	12-14	6	7	7				
		6					Wet, medium dense, gray FINE SAND and	
8	14-16	3	4	4			INORGANIC SILT	15
		5					loose 14 to 20'	
9	16-18	2	2	3				
		2						
10	18-20	4	5	5				
		4					very loose 20-22'	20
11	20-22	1	1	2				
		4					loose below 22'	
12	22-24	3	4	4				
		5						
13	24-26	4	2	4				25
		5					26'	
14	26-28	3	3	4				
		5					Moist, medium stiff gray CLAY and	
15	28-30	5	6	7			INORGANIC SILT	
		7					stiff 28-30'	30
16	30-32	weight of rods					very soft 30-32'	
							stiff below 32'	
17	32-34	4	5	7				
		3						
18	34-36	5	5	6				35
		7					36'	
							Bottom of boring 36 ft.	

Well set with bottom at 21'
Screen 21 to 11'
Protector 2' above ground.

WATER LEVEL: 14 Ft 4/18/94 10:30 am
BORING STARTED: 4/18/94 8:30 am
BORING COMPLETED: 4/18/94 3:30 pm
TOTAL HOURS: 6.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split-spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-116 OW
LINE AND STATION: 82+76
OFFSET: 90' RT
GROUND ELEVATION: 199.6'

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown FINE SAND,	
2	2-4	2	2	2			and INORGANIC SILT	
		2					loose 2-6'	
3	4-6	3	4	5				5
		5					medium dense below 6'	
4	6-8	4	4	7				
		8					8'	
5	8-10	9	11	12				
		12					Moist, very stiff, brown CLAY	10
6	10-12	3	4	3			and INORGANIC SILT	
		9					medium stiff below 10'	
7	12-14	13	14	17			13'	
		33						
8	14-16	43	21	41			Moist, very dense, brown COARSE to FINE	15
		37					SAND and FINE GRAVEL, trace inorganic silt	
9	16-18	35	37	21				
		16					dense 18-20'	
10	18-20	17	20	12				
		36						20
11	20-22	9	83	76			very dense below 20'	
		61						
							23'	
							Bottom of boring 23 ft.	25
								30
								35

Well set with bottom at 23'.
Screen 23 to 13'.
Protector 2' above ground.

CHANGED LOCATION: Boring moved from 82+50, 100' RT to 82+76, 90' RT to allow access.

WATER LEVEL: 8 Ft 5/3/94 12:00 am
BORING STARTED: 5/3/94 11:00 am
BORING COMPLETED: 5/3/94 4:00 pm
TOTAL HOURS: 5.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-116 OW (Replacement)
LINE AND STATION: 82+72
OFFSET: 90' RT
GROUND ELEVATION: 199.6'

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
							See Boring Log for B-116 OW for Soil Descriptions and Blow Count Information.	5
							Original well hit, breaking pipe off several feet below ground level. New well could not be installed in original hole as augers could not remove broken sections of old plastic screen.	10
							Well installed at 21' Screen 15' Riser 8' Protective Pipe and Lock	15
							21'	20
							Bottom of boring 21 ft.	35
								35
							CHANGED LOCATION: Boring moved from 82+76, 90' RT to 82+72, 90' RT to drill new hole.	

WATER LEVEL: 8 Ft 8/25/94 11:00 am
BORING STARTED: 8/25/94 12:00 am
BORING COMPLETED: 8/25/94 10:00 am
TOTAL HOURS: 5.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: T. Miga

SAMPLER TYPE:
SAMPLER OD: ID:
INSIDE LENGTH OF SAMPLER:
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER:
HAMMER FALL:

Job No. L.94

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-117 OW
LINE AND STATION: 82+69
OFFSET: 350' RT
GROUND ELEVATION: 187.7

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	9	1				
		1					Dry, loose, brown FINE SAND	
2	2-4	2	3	3			and INORGANIC SILT	
		4					4'	
3	4-6	7	10	13				5
		13					Moist, very stiff gray CLAY and	
4	6-8	5	6	7			INORGANIC SILT	
		9					stiff 6-8'	
5	8-10	6	8	9			very stiff 8-14'	
		9						10
6	10-12	15	14	7				
		20						
7	12-14	10	10	12				
		11					stiff below 14'	
8	14-16	7	6	7				15
		7						
9	16-18	5	5	5				
		5					18'	
								20
							Bottom of boring 18' ft.	
								25
								30
								35

Well set with bottom at 15'.
Screen 15 to 5'.
Protector 2' above ground.

CHANGED LOCATION: Borng moved from 84+50, 350' RT to 82+69, 350' RT to allow access.

WATER LEVEL: 4 Ft 5/5/94 1:00 pm
BORING STARTED: 5/5/94 12:30 pm
BORING COMPLETED: 5/5/94 2:30 pm
TOTAL HOURS: 2.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split-spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-118 OW
LINE AND STATION: 85+85
OFFSET: CL
GROUND ELEVATION: 208.3

Pilot Subsurface Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown COARSE to FINE	
2	2-4	1	2	2			SAND and INORGANIC SILT	
		3					loose below 4'	
3	4-6	3	3	4				5
		4						
4	6-8	4	4	4				
		5					8'	
5	8-10	5	6	6				
		8					Moist, stiff, brown CLAY and INORGANIC SILT	10
6	10-12	3	3	4				
		5					medium stiff 10-12'	
7	12-14	6	7	8			stiff below 12'	
		12						
8	14-16	17	15	21			15'	15
		22						
							Moist, dense, brown COARSE to FINE	
							SAND, some fine gravel and inorganic silt	
								20
9	20-22	9	18	15				
		39						
								25
10	25-27	20	21	30			very dense below 25'	
		103						
							Drilled with augers 27 to 29'	
							29'	
								30
							Bottom of boring 29 ft.	
								35

Well set with bottom at 29'.
Screen 29 to 4'.
Protector 2' above ground.

CHANGED LOCATION:

WATER LEVEL: 10 Ft 5/4/94 8:30 am
BORING STARTED: 5/4/94 7:00 am
BORING COMPLETED: 5/4/94 2:30 pm
TOTAL HOURS: 7.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-119 OW
LINE AND STATION: 88+~~00~~ 50
OFFSET: 350' RT
GROUND ELEVATION: 204.1

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown FINE SAND,	
2	2-4	1	2	2			3' some inorganic silt	
		2						
3	4-6	3	3	4			Dry, loose , brown FINE SAND	5
		3					and INORGANIC SILT, some clay	
4	6-8	4	5	6			medium dense below 6'	
		6						
5	8-10	5	5	7				
		9					10'	10
6	10-12	5	7	7			Moist, stiff, brown INORGANIC SILT	
		9					and FINE SAND, some clay	
7	12-14	5	6	7				
		8					14.5'	
8	14-16	7	13	15				15
		17					Moist, medium dense, brown FINE SAND	
9	16-18	53	36	28			and INORGANIC SILT, some clay and	
		34					fine gravel	
							very dense below 16'	
								20
10	20-21.5	13	71	71				
							23'	
								25
							Bottom of boring 23 ft.	
							Auger refusal.	
								30
								35

Well set with bottom at 23'.
Screen 23 to 3'.
Protector 2' above ground.

CHANGED LOCATION:

WATER LEVEL: 10 Ft 5/4/94 8:00 am
BORING STARTED: 5/4/94 7:00 am
BORING COMPLETED: 5/4/94 11:00 am
TOTAL HOURS: 4.0
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-119 OW (Repair)
LINE AND STATION: 88+~~00~~ 50
OFFSET: 350' RT
GROUND ELEVATION: 204.1

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
							See Boring Log for B-119OW for Soil Descriptons and Blow Count Information.	5
							Original well hit breaking screen off near ground surface.	
							Removed protective pipe.	10
							Cleaned out old concrete.	
							Measured water level at 2'.	
							Balled well dry.	
							Cut off 3" of damaged screen.	
							Coupled on new pipe section.	15
							Replaced protective pipe.	
							Placed new concrete.	
							Measured water level at 5' 1 hr after bailing.	
							Bottom of well at 18'.	20
							Installed new heavier lock.	
								25
								30
								35

Well set with bottom at 23'.
Screen 23 to 3'.
Protector 2' above ground.

CHANGED LOCATION:

WATER LEVEL: 2 Ft 8/25/94 8:30 am
BORING STARTED: 8/25/94 8:30 am
BORING COMPLETED: 8/25/94 9:30 am
TOTAL HOURS: 1.0
DRILLER: P. Gemelnhardt
HELPER:
INSPECTOR: T. Miga

SAMPLER TYPE:
SAMPLER OD: ID:
INSIDE LENGTH OF SAMPLER:
DIAMOND BIT SIZE:
CASING OD:
WEIGHT OF HAMMER:
HAMMER FALL:

Job No. L.94

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-120 OW
LINE AND STATION: 90+00
OFFSET: 150' RT
GROUND ELEVATION: 208.0

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
1	0-2	1	1	1				
		1					Dry, very loose, brown FINE SAND	
2	2-4	1	2	1			and INORGANIC SILT	
		2					4'	
3	4-6	5	5	5				5
		6					Moist, stiff, gray CLAY and INORGANIC SILT	
4	6-8	4	4	5				
		6						
5	8-10	6	6	7				
		8						10
6	10-12	4	18	14			11.5'	
		9						
7	12-13	15	35	120	for 0"			
							Moist, dense, brown COARSE to FINE	
8	14-15	35	120				SAND, trace fine gravel and inorganic silt	15
							very dense below 14'	
							Drilled with augers 16 to 20'	
							20'	20
							Bottom of boring 20 ft.	
								25
								30
								35

Well set with bottom at 20' .
Screen 20 to 5'.
Protector 2' above ground.

CHANGED LOCATION:

WATER LEVEL: 8 Ft 5/5/94 8:00 am
BORING STARTED: 5/5/94 7:30 am
BORING COMPLETED: 5/5/94 12:00 pm
TOTAL HOURS: 4.5
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: M. Sullivan

SAMPLER TYPE: Split Spoon
SAMPLER OD: 2 In. ID: 1.375 In.
INSIDE LENGTH OF SAMPLER: 24 In.
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER: 140 Lb
HAMMER FALL: 30 In.

Job No. L.94131

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

BORING REPORT

HOLE NO: B-120 OW (Repair)
LINE AND STATION: 90+00
OFFSET: 150' RT
GROUND ELEVATION: 208.0

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
							See Boring Log for B-120OW for Soil Descriptons and Blow Count Information.	5
							Original well hit breaking concrete around protective pipe, loosening pipe.	
							Removed protective pipe.	10
							Cleaned out old concrete.	
							Replaced protective pipe.	
							Placed new concrete.	
							Measured water level at 3'.	
							Bottom of well at 17'.	15
							Installed new heavier lock.	
								20
								25
								30
								35

Well set with bottom at 20'.
Screen 20 to 5'.
Protector 2' above ground.

CHANGED LOCATION:

WATER LEVEL: 3 Ft 8/25/94 10:30 am
BORING STARTED: 8/25/94 10:00 am
BORING COMPLETED: 8/25/94 10:30 am
TOTAL HOURS: 0.5
DRILLER: P. Gemeinhardt
HELPER:
INSPECTOR: T. Miga

SAMPLER TYPE:
SAMPLER OD: ID:
INSIDE LENGTH OF SAMPLER:
DIAMOND BIT SIZE:
CASING OD:
WEIGHT OF HAMMER:
HAMMER FALL:

Job No. L.94

SUBSURFACE EXPLORATION

JOB LOCATION:
Agawam/Southwick
Route 57 Relocation (Phase III)

HOLE NO: B-121 OW
LINE AND STATION: 93+00
OFFSET: 250' RT
GROUND ELEVATION:

BORING REPORT

Pilot Subsurface
Exploration Program

MASSACHUSETTS HIGHWAY DEPARTMENT
CONTRACT NO. 93158

SAMPLE NUMBER	SAMPLE DEPTH FEET	BLOWS PER 6 IN. ON SAMPLER 0-6	6-12	12-18	CORING RATE MIN/FT	CORE RECOVERY %	FIELD IDENTIFICATION OF SOIL	DEPTH FEET
							Moist, loose, reddish brown FINE SAND and INORGANIC SILT	5
								10
							11'	
							Moist, dense, reddish brown COARSE to FINE SAND and GRAVEL	
							15'	15
							Bottom of boring 15 ft. Auger refusal.	20
								25
								30
								35

Well set with bottom at 15'.
Screen 15 to 0'.
Protector 2.5' above ground.

CHANGED LOCATION:

WATER LEVEL: 7 Ft 8/25/94 8:30 am
BORING STARTED: 8/25/94 7:30 am
BORING COMPLETED: 8/25/94 11:00 am
TOTAL HOURS: 3.5
DRILLER: J. Harris
HELPER: M. Kelley
INSPECTOR: T. Miga

SAMPLER TYPE:
SAMPLER OD: ID:
INSIDE LENGTH OF SAMPLER:
DIAMOND BIT SIZE:
CASING OD: 4 In. ID HOLLOW STEM AUGERS
WEIGHT OF HAMMER:
HAMMER FALL:

APPENDIX 4

Study for Adding Ramps at South West Street

February 28, 1994

Mr. Ross B. Dindio, P.E.
Chief Engineer
Massachusetts Highway Department
10 Park Plaza
Boston, Massachusetts 02116

Attention: Mr. Thomas R. Hession
Associate Environmental
Engineer/Project Manager

Re: Route 57 Relocation (Phase II)
Agawam/Southwick, MA

Subject: Study for Adding Ramps
at South West Street

Dear Sir:

As part of their comments on the DSEIR/EA, the Town of Agawam requested the addition of an eastbound on-ramp and a westbound off-ramp at South West Street.

The preliminary design layout for these ramps under the selected Alternative IV(a) alignment (grade separation at South West Street) indicates that their construction would require about one (1) acre of additional wetland fills in Wetland Area No. 3. In our recent meetings with the U.S. Army, Corps of Engineers, U.S. Fish and Wildlife Service and the U.S. Environmental Protection Agency, these Federal Resource Agencies considered the additional wetland fills caused by the ramps to be a substantial environmental impact. The Agencies would not approve the construction of these ramps if they did not result in a significant improvement in traffic operations within the project area.

As requested by the Department, Storch Engineers conducted a traffic analysis and evaluated the effects of adding these ramps to the proposed Phase II Project and presents the following for your review.

Traffic volumes and levels of service for design year 2013 were developed at nearby key intersections/interchanges in the project area so that a comparison of the following options for the proposed Relocated Route 57 crossing with South West Street could be evaluated:

- Basic Design (No Ramps at South West Street)
- Option A (EB On-Ramp Only at South West Street)
- Option B (EB On-Ramp & WB Off-Ramp at South West Street)

The traffic volumes and levels of service for each option are summarized on the attached table, with the following findings:

1. The EB on-ramp will service an estimated 267 and 205 vehicles per hour during the 2013 design year AM and PM peaks, respectively.

2. The WB off-ramp will service an estimated 146 and 254 vehicles per hour during the 2013 design year AM and PM peaks, respectively.

3. Adding either or both of the ramps will reduce peak hour traffic volumes at key off-system intersections (Exist. Route 57 at South West and South Westfield Streets and South Westfield Street at Shoemaker Lane) by 4% to 14% however, corresponding peak hour levels of service are not significantly improved over the "no ramps" alternative.

This analysis of the design year 2013 traffic volumes which would be served by the additional ramps, and the corresponding reduction in volumes at nearby key intersections, indicates that the proposed ramps cannot be justified. While adding the ramps would provide a convenience to some motorists, their implementation does not substantially improve upon otherwise acceptable levels of service at nearby key intersections as projected for year 2013.

In view of the environmental consequences, it is recommended that the proposed Phase II project should not include the construction of these ramps at South West Street. However, if substantial changes to projected future traffic conditions are experienced in the project area after Phase II construction completion, the need for these ramps could be re-evaluated.

Should you have any questions regarding this study, do not hesitate to call our office.

Very truly yours,

STORCH ENGINEERS

Joseph F. Libuda, P.E.
Project Manager

JFL/rwp
06-6700/BeCr
Enclosure

ROUTE 57 RELOCATION (PHASE II)

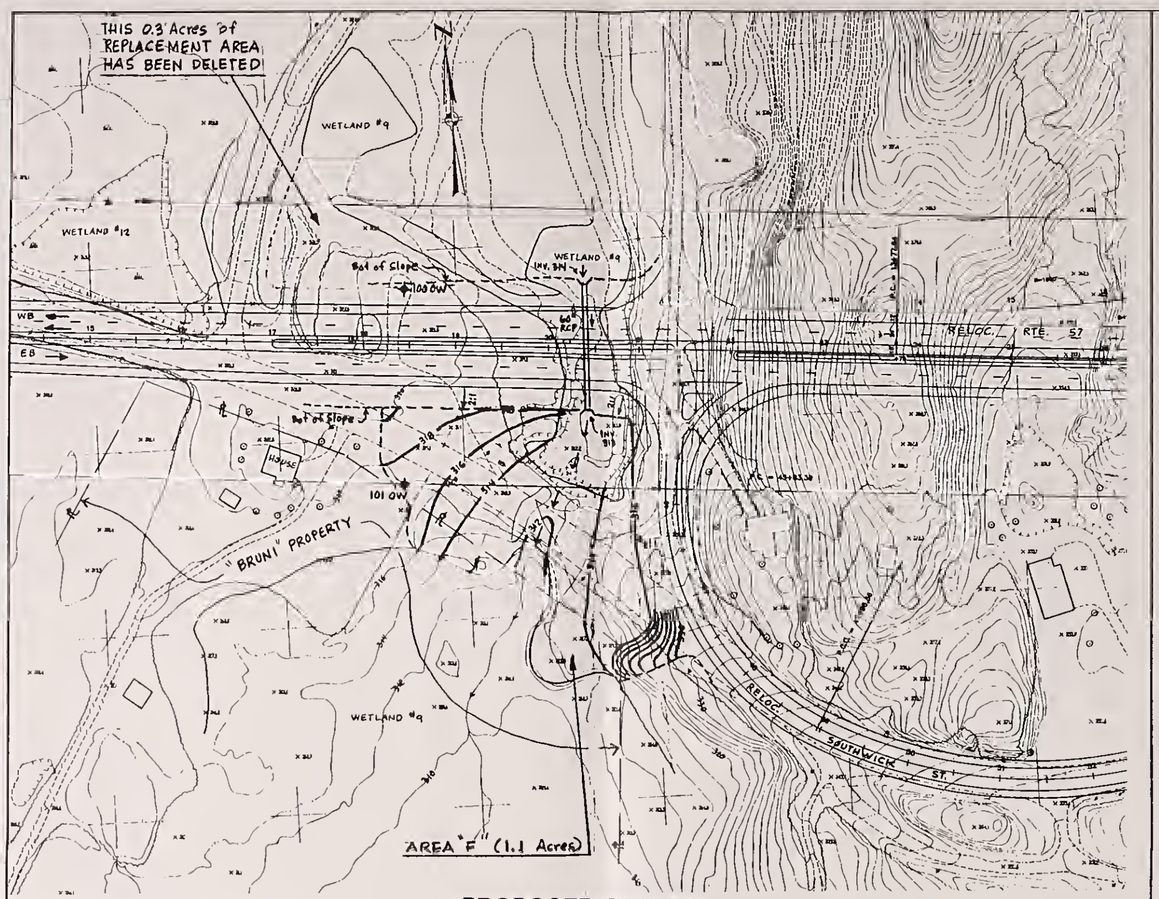
SUMMARY OF TRAFFIC VOLUME CHANGES - YEAR 2013
(in Vehicles per Peak Hour)

SUMMARY OF LEVELS OF SERVICE - YEAR 2013

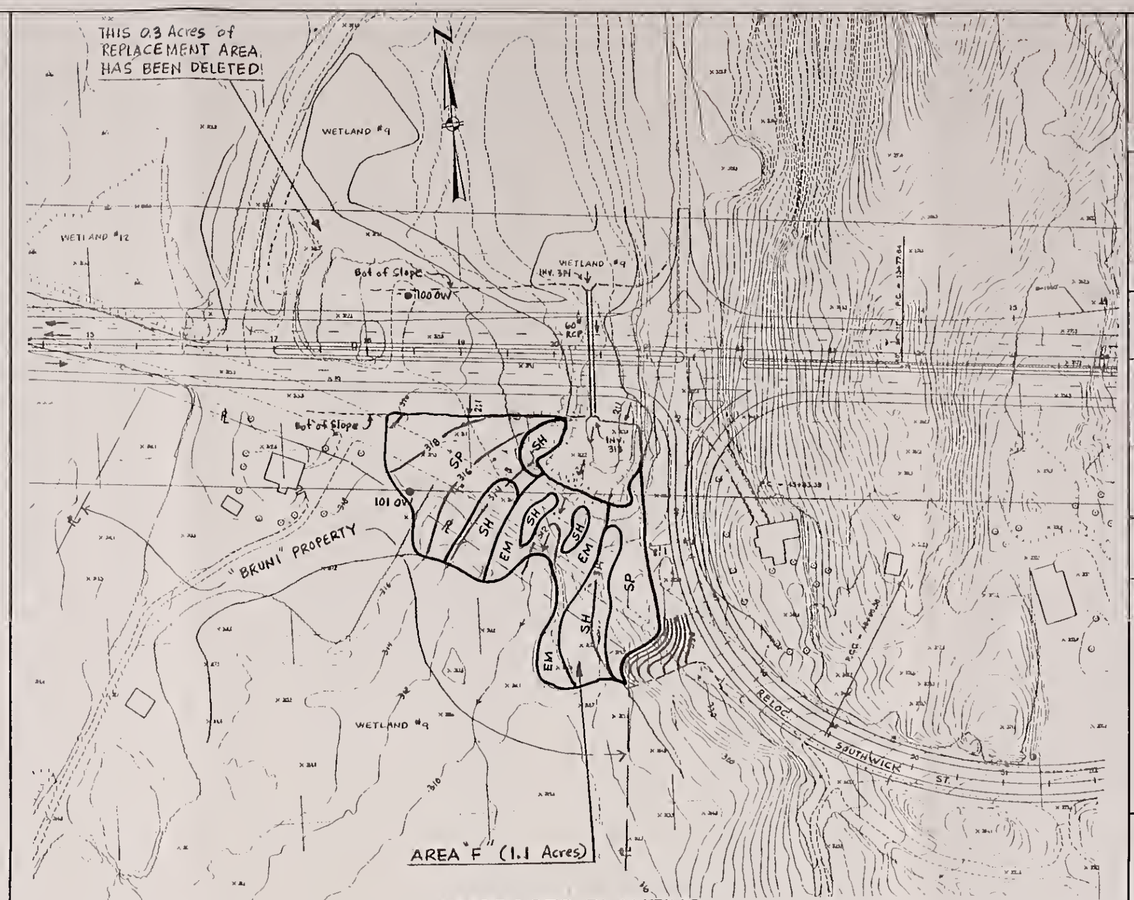
LOCATION	BASIC DESIGN FOR ALT. IV(a) • No Ramps @ S. West St.		VARIOUS RAMP OPTIONS AT SOUTH WEST STREET				ALT. IV(a) BASIC DESIGN PLUS OPTION A		ALT. IV(a) BASIC DESIGN PLUS OPTIONS A & B	
			A		B					
			ADD EB ON-RAMP @ S. West St.		ADD WB OFF-RAMP @ S. West St.					
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. N./S. West St. @ Existing Rte. 57 (Intersection Total)	B 770	B 800	-83	-55	-20	-60	B 687 -11%	B 745 -7%	B 667 -13%	B 685 -14%
2. N./S. Westfield St. @ Existing Rte. 57 (Intersection Total)	C 1767	D 1784	-106	-78	-66	-99	C 1661 -6%	D 1706 -4%	C 1595 -10%	D 1607 -10%
3. S. Westfield St. @ Shoemaker Lane (Intersection Total)	B 1248	B 1379	-106	-78	-66	-99	B 1142 -8%	B 1301 -6%	B 1076 -14%	B 1202 -13%
4. Reloc. Rte. 57 @ S. Westfield St.										
WB Off Ramp	334	703	-	-	-103	-184	334	703	231	519
WB On Ramp	122	185	-	-	-	-	122	185	122	185
EB Off Ramp	212	113	-	-	-	-	212	113	212	113
EB On Ramp	596	584	-194	-151	-	-	402	433	402	433
S. Westfield St. Thru Traffic	435	436	-	-	-	-	435	436	435	436
Interchange Total	1699	2021	-194	-151	-103	-184	1505 -11%	1870 -7%	1402 -17%	1686 -17%
5. Reloc. Rte. 57 @ S. West St.										
WB Off Ramp	-	-	-	-	+146	+254	-	-	146	254
EB On Ramp	-	-	+267	+205	-	-	267	205	267	205
S. West St. Thru Traffic	224	235	- 20	- 31	- 10	- 20	204	220	194	200
Interchange Total	224	235	+247	+174	+136	+234	471 +110%	425 +81%	607 +171%	659 +180%
6. Reloc. Rte. 57 @ Existing Rte. 57 (Intersection Total)	1638	1754	-73	-54	-43	-70	1565 -4%	1700 -3%	1522 -7%	1630 -7%

B = Peak Hour Level of Service for 2013

FIGURE NOS. 1 - 6



PROPOSED GRADING



PROPOSED PLANTING

MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

WETLAND REPLACEMENT AREA "F" (PROPOSED GRADING AND PLANTING)

PLANTING LEGEND

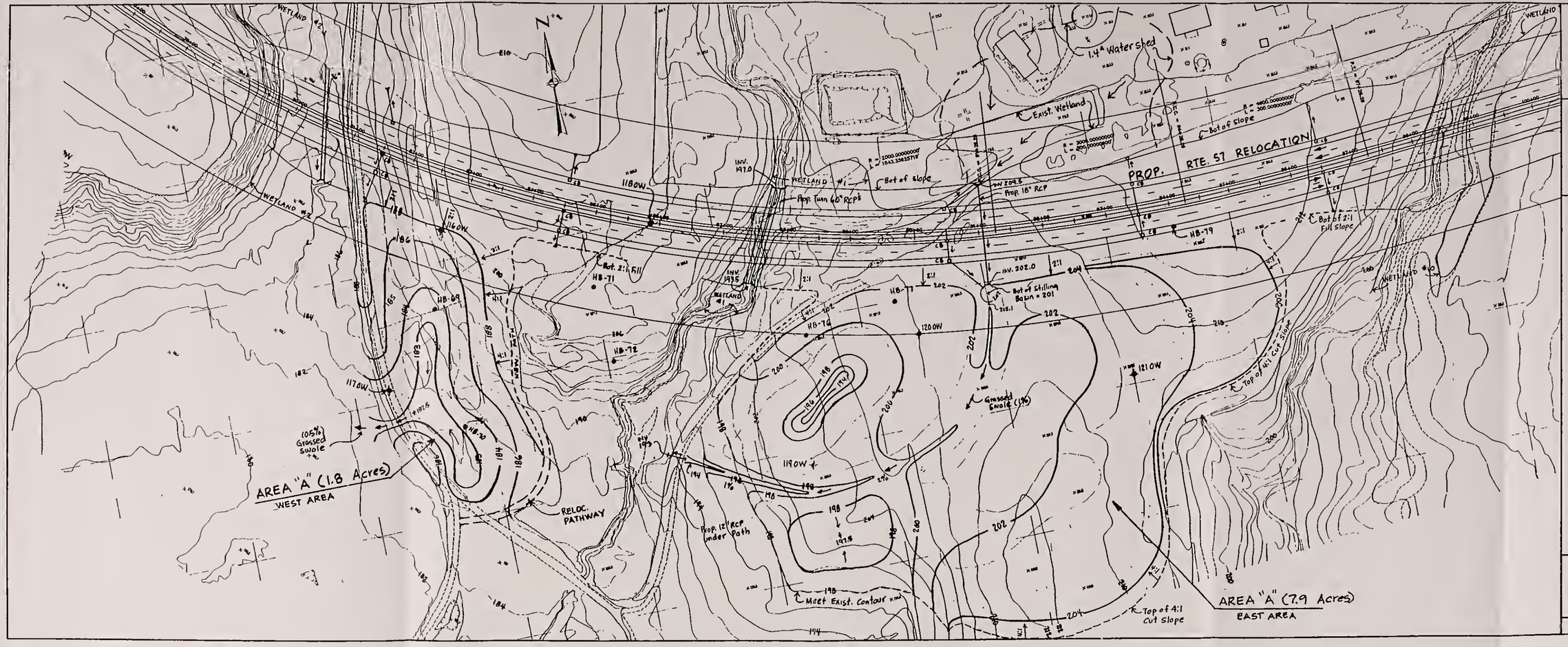
SYMBOL	PROP. PLANTS (SPACING)
EM	*EMERGENTS (2' o.c.)* Cinnamon Fern (Osmunda cinnamomea) Tussock Sedge (Carex stricta) Lady Fern (Athyrium filix-femina) Royal Fern (Osmunda regalis) Sensitive Fern (Onoclea sensibilis)
SH	*SHRUBS (6' o.c.)* Highbush Blueberry (Vaccinium corybosum) Winterberry (Ilex verticillata) Spicebush (Lonicera benzoin) Arrowwood Viburnum (Viburnum dentatum)
SP	*SAPLINGS (10' o.c.)* Red Maple (Acer rubrum) American Elm (Ulnum Americana) Green Ash (Fraxinus Pennsylvatica)

After plantings are completed, the entire wetland replacement area shall be stabilized by seeding at a rate of 15 pounds per acre with the following seed mix:

Creeping bentgrass (Agrostis stolonifera)
Meadow foxtail (Alopecurus arundinacexus)
Annual ryegrass (Lolium multiflorum)
Deertongue (Panicum clandestinum)
Rough bluegrass (Poa trivialis)

HORIZ. SCALE
0 100 200

FIG. NO. 1

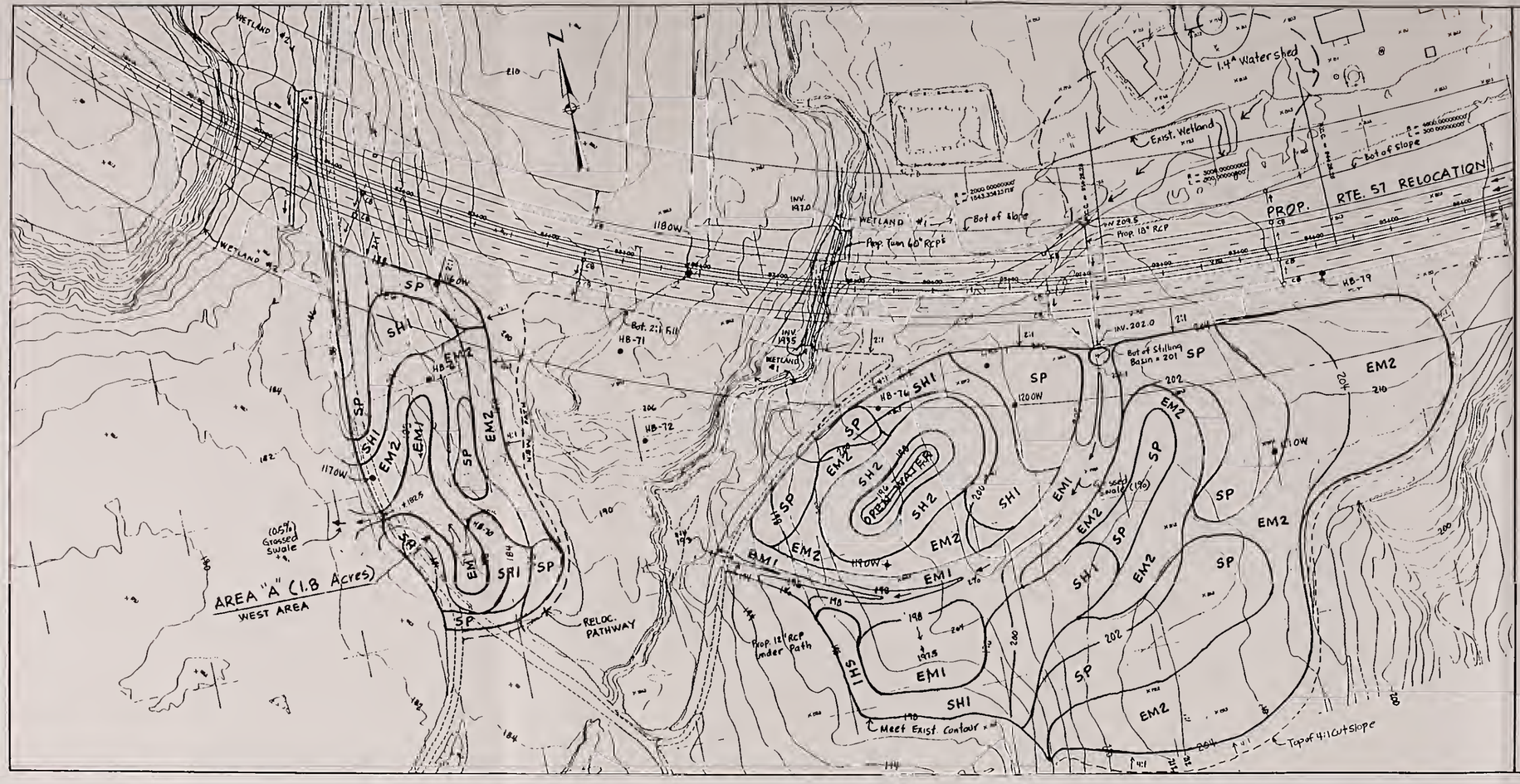


MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

WETLAND REPLACEMENT
AREA "A"
(PROPOSED GRADING)

FIG. NO. 2



PLANTING LEGEND	
SYMBOL	PROP. PLANTS (SPACING)
EM1	***EMERGENTS 1 (2' o.c.)*** Cattails (Typha latifolia) Woolgrass (Scirpus cyperinus) Tussock Sedge (Carex stricta) Blueflag (Iris Versicolor) Skunk Cabbage (Symplocarupus foetidus)
EM2	***EMERGENTS 2 (2' o.c.)*** Joe Pye-Weed (Eupatorium maculatum) Soft Rush (Juncus effusus) Cinnamon Fern (Osmunda cinnamomea) Sensitive Fern (Onoclea sensibilis)
SH1	***SHRUBS 1 (6' o.c.)*** Arrowwood Viburnum (Viburnum dentatum) Red Osier Dogwood (Cornus stolonifera) Highbush Blueberry (Vaccinium corybosum) Winterberry (Ilex verticillata)
SH2	***SHRUBS 2 (3' o.c.)*** Arrowwood Viburnum (Viburnum dentatum) Speckled Alder (Alnus rugosa) Silky Dogwood (Cornus amomum)
SP	***SAPLINGS (10' o.c.)*** Red Maple (Acer rubrum) American Elm (Ulnum Americana) Green Ash (Fraxinus Pennsylvatica)

The 4:1 side slopes bordering the replacement areas shall be stabilized by seeding with the following seed mix:

- Northern Pinto Wildflower Seed Mix* (8lbs./acre)
- Sheep Fescue (26 lbs./acre)

* Wildflower Seed Mix Contains:

Purple Coneflower	Lanced-leaved Coreopsis
Evening Primrose	Babys Breath
Baby Snapdragon	Scarlet Flax
Calendula	Black-Eyed Susan
Corn Poppy	Lewis Flax
Catchfly	Oxeye Daisy
Bachelor Button	

After plantings are completed, the entire wetland replacement area shall be stabilized by seeding at a rate of 15 pounds per acre with the following seed mix:

Creeping bentgrass (Agrostis stolonifera)
Meadow foxtail (Alopecurus arundinacexus)
Annual ryegrass (Lolium multiflorum)
Deerlongue (Panicum clandestinum)
Rough bluegrass (Poa trivialis)

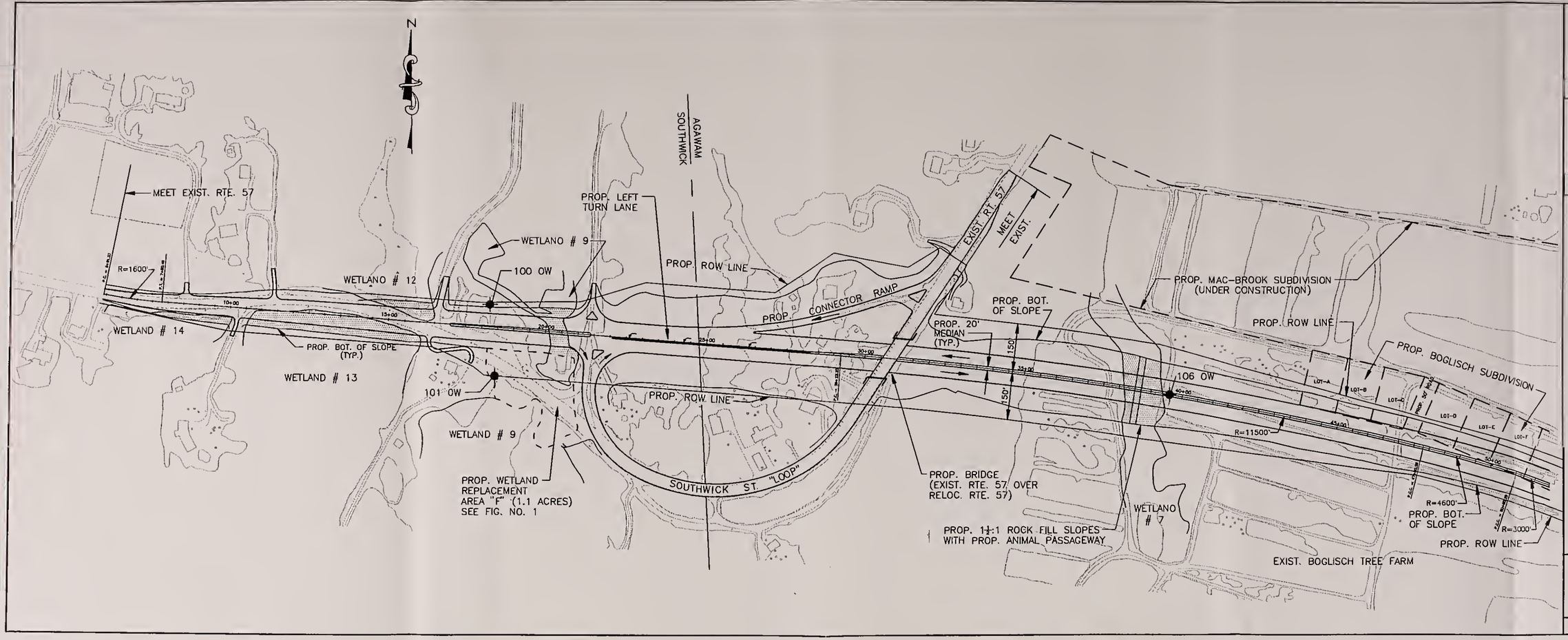
MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

WETLAND REPLACEMENT AREA "A"
(PROPOSED PLANTING)

HORIZ. SCALE
0 100 200

FIG. NO. 3



MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

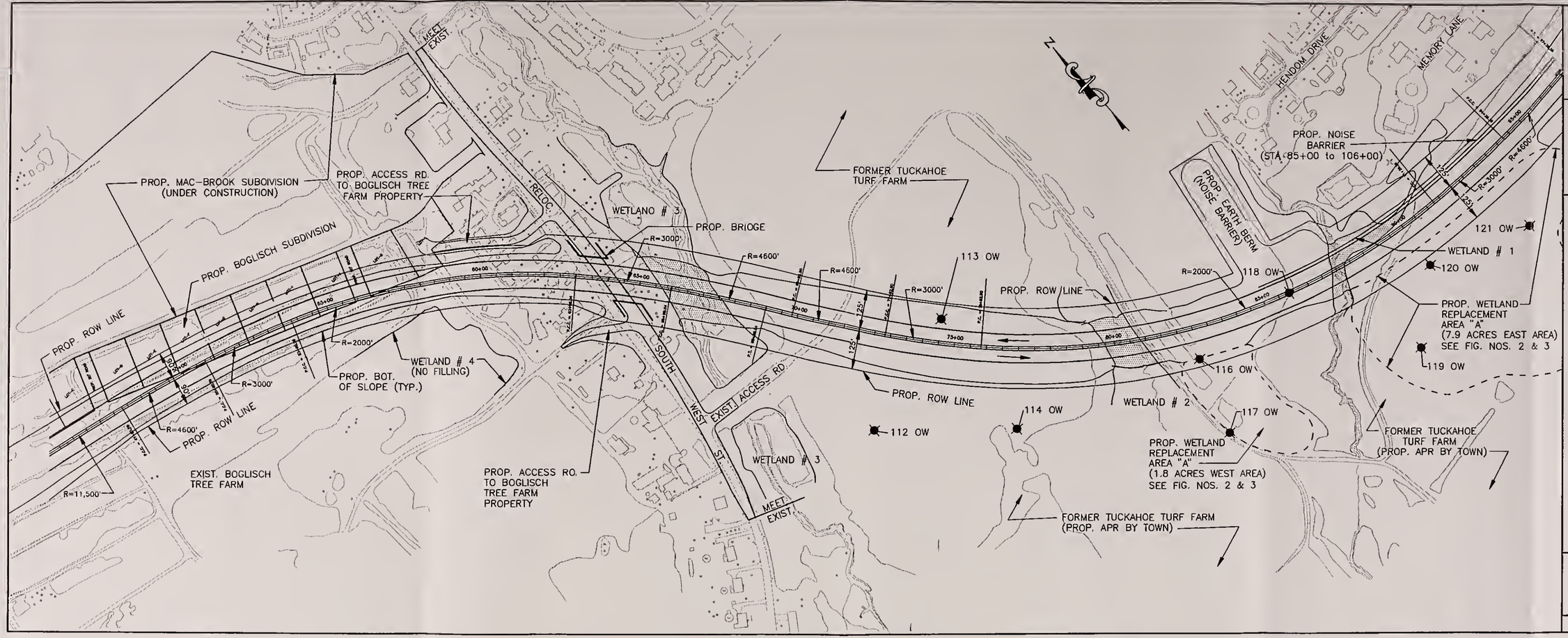
PROPOSED PLAN
(WEST END to STA. 50+00)

= PROP. WETLAND FILL AREAS

= PROPOSED BORING & OBSERVATION WELL

HORIZ. SCALE
0 200 400

FIG. NO. 4



MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

PROPOSED PLAN

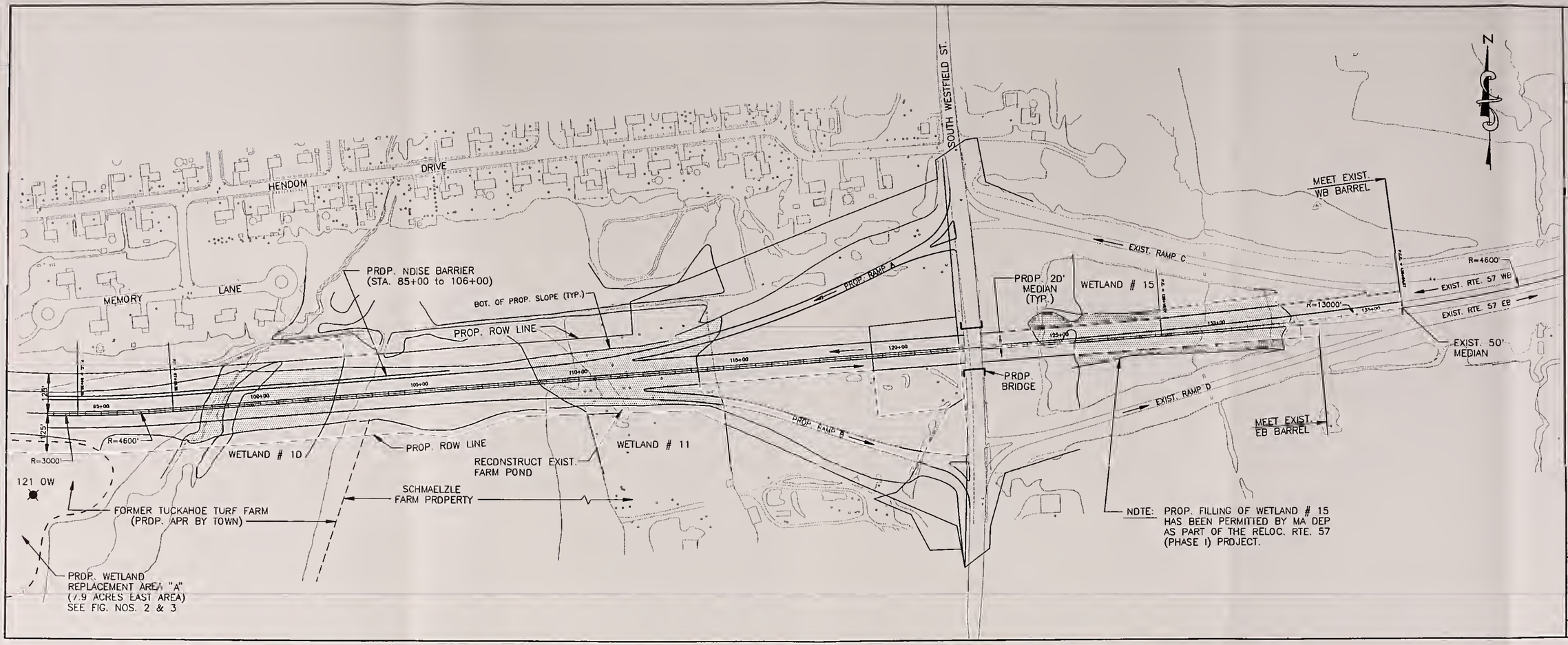
(STA. 50+00
STA. 95+00)

= PROP. WETLAND FILL AREAS

= PROPOSED BORING & OBSERVATION WELL

HORIZ. SCALE
0 200 400

FIG. NO. 5



MASSACHUSETTS
HIGHWAY DEPARTMENT

ROUTE 57 RELOCATION
(PHASE II)

PROPOSED PLAN
(STA. 95+00 to EAST END)

= PROPD. WETLAND FILL AREAS

= PROPOSED BORING & OBSERVATION WELL

HORIZ. SCALE
0 200 400

FIG. NO. 6